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FOR OFFICIAL USE

PART A  
IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS  
CENTRAL RADIO PROPAGATION LABORATORY  
BOULDER, COLORADO



## IONOSPHERIC DATA

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## SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.  
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If the count is four or less, the data are considered insufficient and no median value is computed.
  2. For the F2 layer, h'F or foEs, if the count is from five to nine, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as the count is at least five, the median is not considered doubtful. A count of at least 5 is considered sufficient for an h'Es median.
  3. For all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is considered doubtful.
- The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.
- Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.
- The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:
- a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.
  - b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.
  - c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.
  - d. The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

## PREDICTED AND OBSERVED SUNSPOT NUMBERS

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The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number										
	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949
December	150*	150*	150	42	11	15	33	53	86	100	
November	150*	150*	147	35	10	16	38	52	87	112	
October	150*	150*	135	31	10	17	43	52	90	114	
September	150*	150*	119	30	8	18	46	54	91	115	
August	150*	150*	105	27	8	18	49	57	96	111	
July	150*	150*	95	22	8	20	51	60	101	108	
June	150*	150*	89	18	9	21	52	63	103	108	
May	150*	150*	77	16	10	22	52	68	102	108	
April	150*	150*	150*	68	13	10	24	52	74	101	109
March	150*	150*	150*	60	14	11	27	52	78	103	111
February	150*	150*	150*	53	14	12	29	51	82	103	113
January	150*	150*	150*	48	12	14	30	53	85	105	112

\*This number is believed representative of solar activity at a maximum portion of the current sunspot cycle.

The latest available information follows concerning the corresponding observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1957.

### Observed Sunspot Number

## WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:

Hobart, Tasmania

Commonwealth of Australia, Department of the Interior:

Macquarie I.

Meteorological Service of the Belgian Congo and Ruanda-Urundi:

Bunia, Belgian Congo

Electronics Directorate of the Brazilian Navy:

Natal, Brazil

Escola Politecnica, University of Sao Paulo:

Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:

Falkland Is.

Inverness, Scotland

Slough, England

Defence Research Board, Canada:

Baker Lake, Canada

Ottawa, Canada

Universidad de Concepcion:

Concepcion, Chile

Radio Wave Research Laboratories, National Taiwan University,

Taipeh, Formosa, China:

Formosa, China

Danish National Committee of URSI:

Godhavn, Greenland

Narsarssuak, Greenland

General Direction of Posts and Telegraphs, Helsinki, Finland:

Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:  
Sodankyla, Finland

French National Center for Telecommunications Studies:  
Dakar, French West Africa  
Djibouti, French Somaliland  
Tananarive, Madagascar

Institute for Ionospheric Research, Lindau Uber Northeim,  
Hannover, Germany:  
Lindau/Harz, Germany  
Tsumeb, South West Africa

The Royal Netherlands Meteorological Institute:  
De Bilt, Holland

Icelandic Post and Telegraph Administration:  
Reykjavik, Iceland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:  
Kodaikanal (India Meteorological Department)  
Madras (All India Radio)  
Trivandrum (All India Radio)

National Institute of Geophysics, City University, Rome, Italy:  
Rome, Italy

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:  
Cape Hallett (Adare), Antarctica  
Christchurch, New Zealand  
Scott Base, Antarctica

Manila Observatory:  
Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:  
Moscow

Research Institute of National Defence, Stockholm, Sweden:  
Lycksele, Sweden

United States Army Signal Corps:  
Adak, Alaska  
Ft. Monmouth, New Jersey  
Grand Bahama I.  
Okinawa I.

National Bureau of Standards (Central Radio Propagation Laboratory):

Anchorage, Alaska

Ellsworth, Antarctica

Fairbanks (College), Alaska (Geophysical Institute of the University of Alaska)

Maui, Hawaii

Panama Canal Zone

Point Barrow, Alaska

Pole Station, Antarctica

Puerto Rico, W. I.

San Francisco, California (Stanford University)

Talara, Peru (Instituto Geofisico de Huancayo)

Washington, D. C.

# TABLES OF IONOSPHERIC DATA

August 1958 - January 1956

Table 1

Anchorage, Alaska (61.2°N, 149.9°W)								August 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	4.6							2.50		
01	4.6							2.40		
02	4.45							2.35		
03	4.35							2.45		
04	(4.9)				114	(1.70)		(2.42)		
05	5.4				3.6	(121)	2.20		2.42	
06	5.9				4.0	111	2.60		2.35	
07	6.1				4.4	109	2.95		2.38	
08	6.4				4.8	107	3.20		2.35	
09	6.5				4.9	107	3.40		2.45	
10	6.5				5.1	105	3.50		2.40	
11	6.55				5.2	105	3.65		2.35	
12	6.5				5.2	105	3.70		2.35	
13	6.45				5.3	106	3.68		2.42	
14	6.55				5.3	106	3.60		2.40	
15	6.6				5.2	107	3.45		2.50	
16	6.6				5.0	107	3.25		2.55	
17	6.6				4.8	111	3.00		2.65	
18	6.5				---	115	2.62	2.8	2.60	
19	6.5				<124	2.30			2.75	
20	6.4				(125)	----			2.75	
21	6.1								2.70	
22	5.75								2.60	
23	5.0								2.55	

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Maui, Hawaii (20.8°N, 156.5°W)								August 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	9.75		290					2.9	2.75	
01	9.4		285					3.0	2.80	
02	8.8		270						2.80	
03	>8.0		265						2.72	
04	7.2		270						2.85	
05	6.6		265						2.70	
06	6.5	280	---	119	----	>1.4		2.70		
07	7.8	240	---	113	2.60	2.8		3.00		
08	8.9	230	---	109	3.35	3.8		2.80		
09	9.5	225	---	109	3.70	4.2		2.50		
10	(490)	10.4	225	6.6	109	4.00	4.6	2.32		
11	430	11.3	<220	6.4	109	4.20	4.8	2.40		
12	420	12.3	<225	6.7	109	4.30	4.9	2.45		
13	415	13.0	225	6.6	109	4.35	4.8	2.50		
14	400	13.0	<235	6.5	109	4.30	4.9	2.55		
15	390	13.2	<235	6.4	109	4.10	4.9	2.55		
16	360	13.05	230	6.2	107	3.80	5.1	2.60		
17	345	12.7	240	---	109	3.35	4.6	2.70		
18	<315	12.2	(260)	---	115	2.52	4.1	2.70		
19	12.0	(275)	---	---	---	4.5	2.75			
20	11.8	(290)	---	---	---	4.6	2.65			
21	12.2	285	---	---	---	4.0	2.60			
22	11.5	290	---	---	---	3.6	2.65			
23	10.3	300	---	---	---	3.2	2.65			

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Baguio, P. I. (16.4°N, 120.6°E)								August 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	>12.0		290					2.70		
01	12.0		260					2.85		
02	10.0		240					2.80		
03	9.2		250					2.75		
04	6.3		250					2.0	2.75	
05	7.5		250					2.1	2.80	
06	8.0	290	(134)	(2.15)	3.5	2.75				
07	9.4	260	121	(3.00)	4.2	2.75				
08	10.4	250	117	(3.55)	6.5	2.52				
09	11.4	250	117	(3.95)	6.0	2.20				
10	12.0	(235)	118	(4.15)	5.9	2.10				
11	12.6	230	---	(119)	4.25	4.8				
12	12.8	(230)	---	(119)	4.30			2.05		
13	(540)	13.0	230	(6.5)	119	4.25		2.00		
14	520	13.2	235	(6.3)	(119)	4.18		2.05		
15	(500)	13.2	(250)	---	119	4.00		2.10		
16	13.2	(260)	---	119	3.60	4.2		2.12		
17	13.1	(275)	---	119	(3.00)	4.7		2.15		
18	13.0	300	<133	(2.10)	3.9	2.15				
19	12.5	380	---	---	1.9	2.05				
20	(11.8)	400	---	---	1.9	2.08				
21	(11.5)	350	---	---	2.7	(2.20)				
22	11.7	325	---	---	---	2.35				
23	11.8	315	---	---	---	2.60				

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Washington, D. C. (38.7°N, 77.1°W)								August 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00			6.7		290					2.55
01			6.4		300					2.60
02			6.0		295					2.50
03			5.8		300					2.50
04			5.4		300					2.55
05			5.2		290					2.70
06			6.2		260	---	115	(2.20)	>2.2	2.90
07			(300)		7.3	240	---	109	2.90	3.2
08			390		7.6	230	5.0	107	3.35	3.7
09			400		8.2	220	5.4	107	3.70	2.65
10			430		8.4	205	5.6	107	3.95	2.60
11			470		8.55	210	5.6	107	4.05	2.48
12			450		8.6	215	5.9	105	(4.10)	2.50
13			465		8.45	220	5.8	105	4.10	2.50
14			435		8.25	225	5.9	105	4.00	2.50
15			440		8.1	225	5.6	107	3.90	2.50
16			435		7.95	230	5.2	107	3.55	2.55
17			(390)		8.0	240	---	109	3.15	3.6
18			---		8.1	260	---	113	2.52	3.1
19			7.9		275	---	---	---	2.4	2.70
20			7.7		270					
21			7.5		290					
22			7.1		290					
23			7.0		290					

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Puerto Rico, W. I. (18.5°N, 67.2°W)								August 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00			9.0		295					2.65
01			8.9		275					2.70
02			8.5		270					2.75
03			7.9		260					2.70
04			7.6		265					2.75
05			7.4		260					2.85
06			7.3		260					2.90
07			8.5		240	116	2.55	2.6		3.10
08			9.3		230	109	3.25	3.4		2.95
09			9.9		220	109	3.70	3.9		2.80
10			10.7		210	---	109	4.00	4.3	2.60
11			305		11.4	220	6.4	109	4.25	4.6
12			370		12.2	220	6.5	109	4.35	4.8
13			385		12.2	220	6.1	109	4.35	4.9
14			390		11.9	225	6.2	109	4.25	4.7
15			380		11.8	230	6.0	109	4.05	4.5
16			370		12.0	230	6.5	105	4.25	4.0
17			10.3		250	---	111	3.00	4.4	2.60
18			9.9		265	---	111	3.30	3.9	2.65
19			9.4		275	---	111	3.30	3.9	2.65
20			9.1		285	---	111	3.10	4.3	2.50
21			9.1		295	---	111	3.10	4.3	2.50
22			9.1		290	---	111	3.10	4.3	2.50
23			9.3							

Table 7

Point Barrow, Alaska (71.3°N, 156.0°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(5.65)	330		(119)	2.50	4.2	(2.65)	
01	---	(5.2)	315	---	115 (2.15)	3.7	2.55	
02	---	(5.1)	300	---	(115)	2.20	3.5	2.60
03	(400)	(5.05)	290	---	101 (2.00)	3.4	2.58	
04	440	(5.0)	280	3.9	103	2.40	3.8	(2.45)
05	480	(5.3)	260	(4.0)	(103)	(2.80)	3.6	2.40
06	490	5.1	250	4.0	103	2.90		2.50
07	530	5.2	<250	4.3	105	3.08	2.30	
08	670	4.9	260	4.5	101	3.55	2.12	
09	610	5.1	<265	4.6	101	3.60	2.20	
10	620	5.2	240	4.8	101	3.60	2.15	
11	600	5.2	<245	4.7	103	3.60	2.20	
12	600	5.55	230	4.8	101	3.68	2.15	
13	560	5.6	230	4.9	101	3.60	2.30	
14	565	5.8	225	5.0	101	3.50	2.25	
15	530	5.9	230	4.9	101	3.45	2.35	
16	510	5.9	235	4.8	101	3.32	2.35	
17	480	5.9	230	4.6	101	3.20	2.40	
18	465	5.8	245	4.6	101	3.12	2.42	
19	460	5.75	250	4.4	101	3.00	2.50	
20	(430)	5.55	280	4.0	103	2.90	2.60	
21	---	5.6	300	---	103 (3.00)	3.2	2.70	
22	---	5.6	295		106	2.75	3.3	2.78
23	---	5.65	330		114 (2.50)	3.9	2.62	

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

Reykjavik, Iceland (64.1°N, 21.8°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	4.6	(390)		---	---	4.0	2.50	
01	(4.65)	(400)		---	---	4.3	(2.40)	
02	---	(4.6)	<410	---	---	3.4	(2.45)	
03	(525)	4.5	(395)	---	---	2.42		
04	(470)	4.9	(340)	---	---	2.50		
05	(520)	5.0	<305	3.8	---	2.40		
06	510	5.05	270	4.1	111 (2.90)		2.52	
07	530	5.5	(260)	4.5	109 (2.98)		2.55	
08	525	5.5	240	4.8	107	3.20	2.45	
09	490	5.9	240	5.0	109	3.45	2.55	
10	510	6.1	230	5.1	109	3.60	2.55	
11	480	6.25	225	5.2	<108	3.70	2.50	
12	500	6.5	225	5.4	107	3.70	2.45	
13	490	6.4	230	5.2	109 (3.65)		2.45	
14	485	6.6	230	5.4	109 (3.70)		2.50	
15	480	6.6	<230	5.2	109	3.55	2.45	
16	470	6.2	230	5.0	108 (3.35)		2.55	
17	460	6.4	(260)	4.9	109 (3.20)		2.50	
18	<440	5.9	<270	4.8	113	3.10	2.65	
19	(410)	5.85	290	---	119	2.95	2.62	
20	(400)	5.75	<220		119 (3.00)	3.6	2.65	
21	---	5.4	350	---	<131 (2.55)	2.7	2.65	
22	---	5.1	<385	---	---	2.55		
23	---	5.1	360	---	---	3.3	2.50	

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 11

Narsarsuaq, Greenland (61.2°N, 45.4°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(4.4)	360				4.2	(2.45)	
01	(4.2)	375				3.6	(2.50)	
02	(4.35)	425				3.6	(2.50)	
03	---	(4.1)	(395)	---		3.4	(2.50)	
04	<515	<4.35	320	3.6	114	---	3.7	2.42
05	(580)	4.35	275	3.7	113	2.80	4.0	2.40
06	<675	4.9	275	4.3	107	3.30	4.4	2.35
07	630	5.2	255	4.6	107	3.30	4.6	2.35
08	560	5.5	230	4.8	105	3.52	3.9	2.48
09	470	5.85	220	5.0	101	3.60	4.7	2.55
10	505	6.05	225	5.2	102	3.70	4.1	2.50
11	540	6.15	220	5.2	101	3.75	5.0	2.52
12	520	6.5	220	5.3	101	3.80	4.2	2.46
13	475	6.7	220	5.2	101	3.80		2.55
14	475	6.7	220	5.2	101	(3.70)		2.50
15	480	6.35	230	5.1	101	(3.60)	5.6	2.50
16	460	6.1	240	5.0	103	3.50		2.52
17	450	6.0	275	4.5	105	3.15	3.6	2.55
18	(430)	5.6	280	4.2	111 (2.75)		2.65	
19	(485)	5.4	310	---	(116)	(2.40)		2.50
20	---	5.3	320	---	(115)	(2.20)	3.4	2.65
21	---	(4.7)	330	---	---	3.3	(2.65)	
22	---	(4.7)	345			3.7	(2.60)	

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

Fairbanks, Alaska (64.9°N, 147.8°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00			5.0			---	---	4.2
01			(5.25)			---	---	5.4 (2.62)
02			(5.25)			---	---	4.7 (2.55)
03			5.25			---	---	4.8 (2.48)
04			5.3			---	---	3.8 2.50
05			5.4		4.0	107	2.60	4.3 2.45
06			5.6		4.2	103	3.08	4.0 2.40
07			5.5		4.4	101	3.30	2.35
08			5.5		4.5	101	3.40	2.35
09			5.4		4.6	101	3.50	2.30
10			5.55		4.8	101	3.60	2.30
11			5.6		5.0	99	3.62	2.28
12			5.6		5.0	101	(3.65)	2.22
13			5.75		5.0	101	(3.60)	2.20
14			5.7		5.0	101	3.50	2.20
15			5.9		5.0	101	3.40	2.40
16			5.9		4.9	101	3.30	2.40
17			5.9		4.6	101	3.15	2.50
18			5.8		4.2	105	2.88	2.60
19			5.9		4.7	105	3.50	2.32
20			5.75		4.0	105	3.60	2.32
21			5.7		5.0	105	3.70	2.22
22			5.7		5.1	105	3.72	2.30
23			5.9		5.0	105	3.68	2.30

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Anchorage, Alaska (61.2°N, 149.9°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00			4.7					2.50
01			4.0					2.50
02			5.0					2.40
03			5.3		---	123	---	2.50
04			5.3		(3.4)	119	2.10	2.45
05			5.6		3.9	111	2.45	2.45
06			5.8		4.1	111	2.85	3.0
07			5.9		4.4	107	3.15	2.30
08			5.0		4.6	105	3.40	2.40
09			5.75		4.7	105	3.50	2.32
10			5.7		4.0	105	3.60	2.32
11			5.7		5.0	105	3.70	2.22
12			5.7		5.1	105	3.72	2.30
13			5.9		5.0	105	3.68	2.30
14			5.05		5.0	105	3.60	2.35
15			5.9		5.0	107	3.50	2.35
16			5.9		4.8	106	3.35	2.45
17			5.9		4.8	107	3.20	2.55
18			6.0		4.6	111	2.90	2.60
19			6.2		---	119	2.55	2.9
20			6.0		131	2.10	2.6	2.85
21			5.9		---	---	2.2	2.75
22			5.45		5.45	---	2.2	2.65
23			5.0		5.0	---	1.8	2.60

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Adak, Alaska (51.9°N, 176.6°W)	July 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00			6.2		320			2.50
01			5.8		(320)			2.45
02			5.2		<340			2.40
03			---	4.9	350			2.40
04			440	5.0	(310)	---	---	2.40
05			460	5.9	(280)	3.8	115	2.40
06			465	6.6	250	4.3		

Table 13

Grand Bahama I. (26.6°N, 78.2°W)								July 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	7.5	<300						2.60		
01	7.3	(200)				2.5		2.70		
02	6.65	<200				2.2		2.65		
03	6.4	(205)						2.60		
04	6.1	<305						2.60		
05	6.0	(295)						2.70		
06	6.6	<270	---	(121)	---	2.5		2.95		
07	7.5	<240	---	109	(3.05)	3.9		2.85		
08	425	7.9	<225	5.3	107	4.4		2.70		
09	435	8.1	(220)	5.6	107	4.8		2.60		
10	440	8.1	(210)	5.6	105	4.00	4.4	2.55		
11	410	8.6	(210)	5.7	109	5.0		2.55		
12	420	9.2	(210)	5.9	109	4.7		2.55		
13	410	9.4	<220	5.8	109	4.20	4.5	2.55		
14	415	9.2	<220	5.7	109	(4.30)	4.6	2.55		
15	400	9.0	(220)	5.6	109	4.02	4.1	2.55		
16	390	8.4	(225)	5.4	109	3.65	4.0	2.55		
17	370	8.4	(230)	4.9	109	3.30	3.7	2.60		
18	(380)	8.1	245	---	111	---	3.5	2.65		
19	8.1	260	---	---	---	2.2		2.70		
20	8.0	<270	---	---	---	2.9		2.65		
21	7.6	<260	---	---	---	2.8		2.55		
22	7.5	<300	---	---	---	3.0		2.60		
23	7.4	<305	---	---	---	3.1		2.60		

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15

Baguio, P.I. (16.4°N, 120.6°E)								July 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	11.2	320						2.55		
01	10.3	270						2.80		
02	9.35	270						2.65		
03	8.6	260						2.65		
04	8.2	260				1.2		2.70		
05	7.2	260				1.5		2.80		
06	8.0	280	(131)	(2.25)	2.8			2.80		
07	9.2	260	117	(3.00)	6.4			2.70		
08	9.9	245	115	3.55	6.8			2.40		
09	10.3	240	115	(3.90)	6.4			2.20		
10	---	11.0	235	---	<119	(4.10)	4.9	2.15		
11	---	11.5	(230)	---	119	4.20	5.7	2.15		
12	(500)	12.0	(230)	6.4	119	(4.25)	5.5	2.10		
13	(540)	12.2	225	(6.4)	119	4.20	4.8	2.10		
14	(530)	12.6	230	6.3	<118	(4.10)	4.6	2.10		
15	510	12.8	235	(6.1)	117	3.90	4.8	2.10		
16	(470)	12.7	250	---	117	3.60	4.6	2.15		
17	---	12.5	265	---	117	3.05	4.0	2.15		
18	---	12.5	290	---	(129)	2.35	3.8	2.15		
19	12.0	350	---	---	---	3.6		2.10		
20	11.0	420	---	---	---	2.1		2.10		
21	10.8	405	---	---	---	2.4		2.15		
22	11.0	380	---	---	---	2.2		2.25		
23	11.35	350	---	---	---	2.3		2.40		

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Godhavn, Greenland (69.3°N, 53.5°W)								June 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00	5.25		<138		1.90			2.60		
01	(5.2)	---	(135)	2.00				(2.60)		
02	(5.2)	---	129	2.05				(2.52)		
03	5.0	---	<122	2.20				2.60		
04	(5.0)	3.8	115	(2.35)				2.60		
05	4.85	4.0	114	2.60				2.65		
06	(4.75)	4.2	111	2.90				2.10		
07	4.8	4.3	109	3.10				2.10		
08	(5.3)	(4.6)	108	3.20				(2.15)		
09	5.6	4.8	107	3.35				2.30		
10	(5.55)	5.0	107	3.48				2.30		
11	(6.2)	5.0	105	3.50				2.40		
12	(6.1)	5.0	105	(3.55)				2.35		
13	6.0	5.0	105	3.52				2.30		
14	(5.9)	5.0	105	>3.42				(2.30)		
15	(5.6)	5.0	105	3.32				(2.35)		
16	5.8	5.0	107	3.35	4.4			2.30		
17	(5.75)	4.8	107	(3.20)	3.4			(2.35)		
18	5.8	4.6	109	3.05				2.40		
19	(6.1)	4.4	111	(2.90)				(2.45)		
20	(5.9)	4.2	(115)	2.60				2.45		
21	5.9	3.7	117	2.40				2.58		
22	5.55	3.5	<129	2.20				2.50		
23	5.2	---	<133	2.05				2.60		

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 14

Okinawa I. (26.3°N, 127.8°E)								July 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00			11.15		310				>2.1	2.60
01			10.4		300				2.4	2.65
02			9.4		290				2.3	2.70
03			8.4		260				2.65	
04			7.7		275				2.60	
05			6.85		280				2.1	2.60
06			7.3		270				2.70	
07			8.4		240				2.95	
08			0.9		230				113 (2.90)	2.88
09			(300)	9.1	225				111 (3.50)	4.3
10			375	9.6	220	(6.2)	109	(4.10)	4.9	2.65
11			420	10.8	220	(6.5)	109	(4.20)	4.9	2.50
12			410	11.5	215	6.4	109	(4.25)	5.0	2.50
13			390	12.0	220	6.3	109	4.25	5.1	2.52
14			395	12.5	220	6.2	109	(4.20)	5.0	2.50
15			375	13.15	225	6.0	109	4.02	5.2	2.55
16			365	13.4	230	5.8	109	(3.80)	4.6	2.60
17			350	12.9	235	(5.6)	109	(3.40)	4.3	2.65
18			320	12.25	250				111	2.90
19			12.1		270					3.4
20			10.8		290					2.65
21			11.1		(325)					2.45
22			11.2		(330)					(2.45)
23			10.75		325					2.50

Time: 135.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Note: Height scale was expanded evening of 4th and morning of 5th.

Table 16

Talara, Peru (4.6°S, 81.3°W)								July 1958		
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2		
00			9.9		230					2.75
01			9.5		230					2.85
02			9.0		235					3.00
03			8.0		230					3.10
04			7.15		235					3.10
05			5.8		245					2.98
06			4.7		250					2.85
07			6.9		265					2.82
08			8.8		240					2.75
09			9.7		225					2.50
10			10.1		215					2.30
11			10.7		205					2.20
12			11.0		210					2.10
13			11.0		205					2.10
14			11.0		200					2.08
15			10.8		200					2.02
16			10.8		220					2.05
17			10.5		240					2.05
18			10.5		275					2.05
19			9.8		340					2.10
20			9.7		355					2.15
21			10.2		320					2.35
22			10.4		265					2.60
23			9.6		220					2.70

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Ft. Monmouth, New Jersey (40.4°N, 74.1°W)								June 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		6.8	<310					2.55	
01		6.4	<310					2.55	
02		6.2	(300)					2.58	
03		5.8	<310					2.55	
04		5.4	<310					2.60	
05	---	5.6	275	---	119	----		2.80	
06	(585)	6.05	250	4.2	111	2.90	3.0	2.75	
07	510	6.2	<240	4.6	109	3.35	3.4	2.70	
08	540	6.4	<230	5.0	109	3.62	3.8	2.50	
09	520	6.4	215	5.3	106	(3.90)	4.0	2.45	
10	500	6.7	210	5.4	105	4.00	4.2	2.40	
11	515	6.6	215	5.5	103	(4.10)	4.3	2.45	
12	530	6.8	210	5.6	101	4.05	4.2	2.45	
13	475	7.0	220	5.6	105	(4.00)	>4.0	2.50	
14	490	7.1	220	5.6	109	(4.00)		2.50	
15	475	7.1	220	5.5	107	3.90		2.50	
16	420	7.4	230	5.4	108	3.70		2.60	
17	405	7.6	230	5.0	109	3.30		2.60	
18	(395)	7.8	250	---	114	(2.80)		2.65	
19		8.0	290	---	<120	----	>2.3	2.70	
20		8.2	<295				3.0	2.65	
21		8.1	(290)					2.60	
22		7.85	(290)					2.60	
23		7.5	(300)					2.60	

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Okinawa I. (26.3°N, 127.8°E)								June 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		10.75	315				2.8	2.60	
01		10.45	290				2.8	2.75	
02		9.5	265				3.1	2.72	
03		8.95	275				2.8	2.70	
04		8.4	265					2.65	
05		7.85	270					2.65	
06		8.3	250	---	2.30	2.3		3.00	
07	---	8.65	235	---	113	(3.00)	3.5	3.08	
08	(275)	8.7	230	---	109	(3.46)	4.5	2.88	
09	(330)	9.1	225	---	109	(3.80)	5.2	2.65	
10	400	9.7	225	6.3	109	(4.00)	5.7	2.45	
11	420	10.4	<230	6.4	109	(4.20)	5.8	2.45	
12	415	11.1	<240	6.4	109	(4.35)	6.3	2.45	
13	415	11.5	<240	6.1	109	(4.40)	5.8	2.50	
14	410	12.1	230	6.2	109	(4.30)	5.4	2.50	
15	390	12.6	230	6.2	109	(4.05)	5.5	2.50	
16	390	12.75	235	(5.9)	109	3.82	5.6	2.50	
17	350	12.65	240	---	109	3.45	5.1	2.60	
18	320	12.1	260	---	113	(2.86)	5.3	2.65	
19		11.5	290				5.1	2.60	
20		10.8	310				4.4	2.55	
21		>10.0	330				3.2	2.45	
22		10.2	340					2.45	
23		10.0	340				2.8	2.48	

Time: 135.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 23

Baker Lake, Canada (64.3°N, 96.0°W)								May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		6.0	290		---	1.4	4.2		
01		5.9	290		---	1.3	4.0	---	
02		6.0	300		140	1.4	3.5		
03	---	5.5	290	---	130	1.7	4.0	---	
04	---	5.6	290	---	130	2.0	4.0	---	
05	400	5.4	260	3.9	115	2.3	4.2	---	
06	440	5.7	240	4.3	110	2.7	4.2	---	
07	480	5.8	230	4.5	110	3.1	5.1	G	
08	520	5.8	230	4.7	105	3.4	5.0	G	
09	550	6.0	220	4.8	105	3.5	4.8	G	
10	570	6.0	220	5.0	105	3.8	5.2	G	
11	530	6.7	220	5.2	105	3.8	5.2	2.3	
12	520	6.9	220	5.3	105	3.8	4.6	2.3	
13	490	7.2	220	5.3	105	3.8	5.0	(2.4)	
14	480	7.2	220	5.0	105	3.7		2.3	
15	450	7.0	220	5.0	105	3.6		---	
16	460	7.0	220	4.9	105	3.5	4.5	---	
17	460	6.8	230	4.7	110	3.2	4.2	---	
18	420	6.2	230	4.7	110	3.0	3.8	---	
19	460	6.4	260	4.2	110	2.8	4.6	---	
20	(460)	6.5	280	3.7	120	2.4	4.2	---	
21	---	6.3	300	---	125	2.0	6.5		
22		6.3	290	---	135	1.8	5.8		
23		6.2	290	---	1.5	5.0			

Time: 90.0°W.

Sweep: 1.0 Mc to 16.0 Mc in 16 seconds.

Table 20

Grand Bahama I. (26.6°N, 78.2°W)								June 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00			8.6		<300				2.55
01			8.3		<280				2.60
02			7.8		<300				2.60
03			7.6		<285				2.62
04			7.25		<285				2.55
05			6.85		<285				2.65
06	---	7.35	255	---	(115)	2.40	2.6		2.78
07	---	8.0	235	---	107	(3.05)	3.6		2.75
08	(480)	8.4	<220		5.1	105	3.50	4.2	2.58
09	435	8.75	(210)		5.5	103	3.80	4.1	2.55
10	410	9.25	(210)		5.7	105	(4.05)	4.7	2.55
11	415	9.5	(210)		6.0	105	(4.25)	4.5	2.50
12	410	9.5	215		5.9	105	(4.28)	4.6	2.50
13	410	9.6	215		5.9	105	(4.25)	4.8	2.50
14	400	9.5	(215)		5.8	105	4.20	4.8	2.50
15	415	9.3	220		5.8	109	4.02	4.5	2.50
16	390	9.35	(225)		5.6	<111	3.75	4.0	2.55
17	380	9.0	(230)		5.2	111	3.30	3.9	2.55
18	---	9.15	250	---	111	2.70	3.1	2.60	
19	8.9	280		---	---	---	3.0	2.60	
20	8.8	<275		---	---	---	2.2	2.55	
21	8.6	<300		---	---	---	2.9	2.55	
22	8.4	<305		---	---	---	2.4	2.55	
23	8.3	<305		---	---	---	2.60	2.60	

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

Inverness, Scotland (57.4°N, 4.2°W)								May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00			6.8		335			<1.0	2.30
01			6.6		350			1.2	2.30
02			6.3		345			1.0	2.30
03			6.0		345			1.30	2.30
04			6.0		315			1.60	2.40
05	530	6.1	275	---	105	2.25		2.50	
06	570	6.2	250	4.3	105	2.70	3.1	2.55	
07	450	6.8	250	5.0	105	3.05	3.4	2.55	
08	480	7.0	245	5.3	105	3.30	3.6	2.50	
09	450	7.2	240	5.5	105	3.60		2.45	
10	470	7.6	240	5.6	105	3.70		2.45	
11	470	7.6	235	5.7	100	3.80		2.45	
12	470	7.6	235	5.9	105	3.90		2.40	
13	450	7.8	235	5.8	105	3.90		2.45	
14	450	7.9	240	5.8	105	3.85		2.45	
15	410	8.0	245	5.9	105	3.80		2.50	
16	400	8.0	250	5.5	105	3.50		2.50	
17	410	8.0	250	5.3	105	3.20		2.55	
18	530	7.7	250	---	110	2.90		2.60	
19		7.9	260		110	2.45		2.65	
20		7.9	280		---	<150	1.95	2.60	
21		7.8	290		---	1.70		2.55	
22		7.6	300		---	1.70		2.40	
23		7.4	315		---	1.6		2.35	

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 25

De Bilt, Holland (52.1°N, 5.2°E)							May 1958	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	330	7.0					2.55	
01	330	6.9					2.50	
02	325	6.3					2.50	
03	310	6.0	---	---			2.55	
04	295	6.2	---	---			2.65	
05	260	6.6	250	---	125	2.6	2.75	
06	425	7.0	240	5.0	120	3.0	2.75	
07	425	7.4	225	5.1	115	3.4	3.5	2.70
08	430	7.8	225	5.3	110	3.6	3.8	2.60
09	440	7.8	220	5.9	110	3.9		2.65
10	450	8.0	225	6.0	110	4.0	4.2	2.60
11	400	8.6	225	6.0	---	---		2.60
12	425	8.5	225	6.3	---	---		2.60
13	420	8.5	225	6.0	110	4.0		2.60
14	410	8.4	225	6.0	110	4.0		2.60
15	400	8.3	230	5.6	110	3.8		2.65
16	360	8.2	240	5.4	110	3.5		2.70
17	(355)	8.2	250	5.0	110	3.1		2.80
18	(250)	8.2	250	---	120	2.6		2.85
19	260	8.2	---	---				2.85
20	270	8.1						2.75
21	290	7.5						2.70
22	310	7.6						2.60
23	320	7.3						2.55

Time: 0.0°.

Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 27

San Francisco, California (37.4°N, 122.2°W)							May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.5	320			3.1	2.40	
01		6.3	310			2.3	2.50	
02		6.0	(315)			2.6	2.45	
03		5.9	<320			2.8	2.42	
04		5.7	<320			2.6	2.40	
05		6.0	<310	---	---	2.4	2.50	
06		6.9	255	---	109	2.50	3.0	2.65
07	(500)	7.5	240	---	101	3.02	3.6	2.55
08	(500)	8.4	230	5.2	101	3.45	4.1	2.48
09	440	9.3	220	5.6	101	3.65	4.5	2.50
10	410	10.4	215	5.8	101	3.90	4.5	2.45
11	420	10.6	215	5.8	101	3.95	4.5	2.42
12	410	10.6	220	5.8	101	3.90	4.4	2.45
13	410	10.6	220	5.9	101	4.00	>4.1	2.45
14	400	10.65	220	6.0	101	4.00		2.45
15	400	10.0	230	5.8	101	3.80	3.9	2.45
16	385	9.8	230	5.3	101	3.55	3.9	2.50
17	---	9.25	240	---	105	3.15	3.6	2.60
18		8.6	255		111	2.55	3.3	2.68
19		8.35	(265)			3.7	2.72	
20		7.9	(270)			4.0	2.60	
21		7.2	(285)			3.7	2.50	
22		6.8	<300			3.1	2.50	
23		6.7	<320			2.8	2.45	

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 29

Christchurch, New Zealand (43.6°S, 172.8°E)							May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.4	290			<1.7	2.55	
01		6.3	300			<1.6	2.50	
02		6.0	300			<1.5	2.55	
03		5.7	300			<1.5	2.60	
04		5.6	290			<1.5	2.60	
05		5.5	260			1.4	2.70	
06		5.4	250			<1.5	2.65	
07		5.5	260	---	---	<1.5	2.70	
08		8.2	250	145	2.0		3.05	
09		11.3	250	125	2.7		3.10	
10		12.4	240	115	3.0		3.05	
11		13.2	240	105	3.3		2.95	
12	---	13.5	240	105	3.4		2.85	
13		13.5	240	100	3.4		2.85	
14		13.5	250	100	3.3		2.05	
15		13.5	250	105	3.1		2.80	
16		12.8	250	120	2.7		2.85	
17		12.2	250	---	(2.2)		2.90	
18		11.1	240			<1.8	2.80	
19		9.2	250			<1.7	2.75	
20		8.3	250			<1.7	2.70	
21		7.4	250			<1.6	2.70	
22		6.0	260			<1.7	2.65	
23		6.4	280			<1.7	2.60	

Time: 180.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 26

Ottawa, Canada (45.4°N, 75.9°W)							May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00						6.0	340	
01						5.2	340	
02						5.2	330	
03						5.0	320	
04						4.7	320	
05						5.3	290	
06						6.0	260	
07						440	240	
08						500	230	
09						510	220	
10						510	220	
11						540	240	
12						500	220	
13						500	220	
14						480	220	
15						470	230	
16						450	240	
17						420	250	
18						370	270	
19						8.0	290	
20						8.0	280	
21						7.8	300	
22						6.9	300	
23						6.4	310	

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 28

Formosa, China (25.0°N, 121.5°E)							May 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00						16.4	290	
01						14.4	270	
02						12.3	250	
03						10.5	250	
04						9.1	270	
05						8.4	290	
06						9.6	250	
07						10.4	240	
08						11.3	240	
09						12.0	240	
10						13.5	(240)	
11						14.5	(240)	
12						15.2	<250	
13						400	>15.8	
14						420	>16.1	
15						400	16.1	
16						380	16.0	
17						16.3	250	
18						16.0	280	
19						>15.0	<320	
20						15.4	330	
21						>16.0	330	
22						>16.5	320	
23						16.6	300	

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 30

Godhavn, Greenland (69.3°N, 53.5°W)							April 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00						(5.5)	---	
01						(5.2)	---	
02						(5.2)	---	
03						(4.9)	139	1.50
04						4.7	133	---
05						(4.6)	121	(2.00)
06						(5.0)	117	2.20
07						(5.4)	4.0	115
08						(5.6)	4.4	113
09						(6.0)	4.4	2.90
10						(6.8)	109	3.30
11						(6.55)	4.6	109
12						(6.9)	4.7	111
13						(7.0)	4.9	109
14						(6.7)	4.0	115
15						(6.5)	4.9	111
16						(6.6)	4.7	112
17						(6.6)	4.5	113
18						6.7	4.2	<116
19						6.4	---	2.30
20						6.5	<125	1.95
21						(6.55)	125	1.60
22						(6.3)	125	

Table 31

Sodankyla, Finland (67.4°N, 26.6°E)								April 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00	(7.3)	465			4.0	(2.45)			
01	(7.0)	495			4.3	---			
02	---	435			3.6	---			
03	(6.6)	410			3.2	(2.50)			
04	(6.6)	355			2.6	(2.50)			
05	(6.9)	310	---	E	2.4	(2.60)			
06	7.2	290	---	E		2.55			
07	7.0	260	135	2.60		2.60			
00	7.4	250	120	3.00		2.60			
09	7.9	240	110	3.20		2.60			
10	8.0	240	5.6	115	3.40	2.50			
11	8.5	230	5.5	115	3.45	2.40			
12	8.9	230	5.6	115	3.50	2.45			
13	9.1	230	5.4	110	3.45	2.50			
14	9.2	230	---	115	3.40	2.65			
15	9.0	240	---	115	3.30	2.65			
16	9.1	240	---	110	3.10	2.70			
17	8.4	250		115	2.85	2.70			
18	7.8	265		115	2.45	3.2	2.70		
19	7.5	300	---	E	3.6	2.70			
20	7.3	335	---	E	3.3	2.70			
21	8.0	370	---	---	3.8	2.60			
22	7.4	405			4.0	2.40			
23	(7.4)	450			4.4	(2.40)			

Time: 30.0°E.

Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 33

Natal, Brazil (5.3°S, 35.1°W)								April 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00	>8.0	270			----				
01	>7.5	(260)			----				
02	>9.0	(270)			----				
03	(7.7)	(260)			----				
04	(8.2)	(270)			(2.85)				
05	(8.9)	(245)			(2.90)				
06	(8.9)	(230)			(3.10)				
07	(11.0)	(260)			(2.95)				
00	13.4	250	117	(3.30)	2.90				
09	14.7	240	109	----	2.68				
10	15.15	230	106	----	(5.8)	2.42			
11	>15.0	230	---	----	2.15				
12	14.5	<235	---	----	2.12				
13	14.3	<230	---	----	2.20				
14	14.1	<235	---	----	2.20				
15	14.35	230	---	----	(4.9)	2.18			
16	14.25	240	---	----	2.12				
17	13.9	260	119	(3.20)	2.15				
18	13.35	300			(2.05)				
19	>9.75	380			----				
20	9.5	(465)			(1.95)				
21	>8.25	(435)			----				
22	(9.0)	(370)			----				
23	>8.7	(315)			----				

Time: 30.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 32.4 seconds.

Table 35

Sodankyla, Finland (67.4°N, 26.6°E)								March 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00	---	410			4.0	----			
01	---	410			3.9	----			
02	---	420			3.5	----			
03	---	400			4.0	----			
04	---	400			3.2	----			
05	---	370			2.7	----			
06	(5.4)	305	---	----	(2.70)				
07	(6.5)	300	---	----	2.75				
00	6.8	270	140	2.30	2.75				
09	7.2	260	135	2.45	2.80				
10	7.8	250	---	120	3.00	2.70			
11	8.7	245	---	120	3.05	2.70			
12	9.3	250	---	120	3.10	2.65			
13	9.9	240	---	120	3.10	2.75			
14	10.0	250	125	2.95	2.75				
15	9.6	245	120	2.90	2.80				
16	9.2	260	120	2.90	2.85				
17	8.0	255	130	2.30	2.85				
18	8.9	290	---	----	2.7	2.85			
19	(9.3)	340	---	----	3.5	(2.90)			
20	(7.2)	390	---	----	3.4	(2.70)			
21	---	425			3.9	----			
22	---	380			4.0	----			
23	---	420			4.1	----			

Time: 30.0°E.

Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 32

Formosa, China (25.0°N, 121.5°E)								April 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00			16.3	270					2.85
01			14.8	260					3.05
02			12.5	240					2.95
03			9.8	230					2.70
04			8.9	260					2.70
05			8.4	280					2.65
06			9.8	250					2.90
07			12.0	230					(2.9) 3.4 2.95
00			13.5	230					3.6 4.2 2.90
09			>14.0	230					4.5 2.70
10			14.8	<240					>4.8 2.60
11			(15.3)	<240					4.9 (2.60)
12			>15.8	<240					2.60
13			16.1	<240					2.50
14			16.4	240					2.55
15			(16.6)	240					(3.7) 3.9 (2.55)
16			16.4	240					(3.1) 3.7 2.60
17			16.2	260					3.5 (2.65)
18			16.2	280					2.60
19			16.4	<320					3.1 2.60
20			16.9	320					2.7 (2.70)
21			>17.2	300					2.1 (2.65)
22			17.0	280					(2.70)
23			>17.0	270					2.80

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 34

Godhavn, Greenland (69.3°N, 53.5°W)								March 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00			(5.0)						(2.50)
01			(5.05)						(2.50)
02			(5.0)						(2.55)
03			(4.55)						(2.50)
04			(4.2)						(2.48)
05			(3.6)						(2.40)
06			(4.0)						(2.70)
07			(4.9)						(2.70)
08			(4.8)						(2.72)
09			(5.3)						(2.55)
10			(6.6)						(2.60)
11			(6.6)						(2.52)
12			7.2		(4.1)	123	2.80		2.45
13			(6.95)		(4.2)	121	2.80		(2.50)
14			(6.95)		4.0	(122)	(2.70)		(2.60)
15			(6.5)		(3.8)	125	2.55		(2.52)
16			(6.4)		128				2.60
17			(6.3)		127				(2.65)
18			(6.65)						(2.60)
19			(6.3)						(2.55)
20			6.45						2.60
21			(6.6)						(2.50)
22			6.5						2.50
23			(5.7)						(2.52)

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 36

Lycksele, Sweden (64.6°N, 18.8°E)								March 1958	
Time	h'F2	f0F2	h'F	f0F1	h'E	f0E	f0Es	(M3000)F2	
00			5.8	390					2.9 2.2
01			5.9	380					2.7 2.3
02			5.3	360					3.2 2.3
03			4.8	390					2.4 2.25
04			5.0	340					1.8 2.4
05			5.0	300					2.4 2.4
06			5.3	285					2.6 2.6
07			6.1	260					2.10 2.7
08			7.0	250					2.50 2.7
09			8.4	250					2.75 2.7
10			8.8	240					3.10 2.7
11</td									

Table 37

Time	March 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	foEs
00	5.0		<1.8		2.50		
01	(4.5)		<1.7		(2.40)		
02	(4.5)		<1.9		(2.40)		
03	(3.9)		<1.5		(2.40)		
04	---		<1.5		---		
05	(3.8)		<1.6		(2.45)		
06	(5.2)				(2.60)		
07	5.7		2.70				
08	6.5		2.80				
09	8.0		2.75				
10	8.7		2.80				
11	9.7		2.75				
12	10.3		2.70				
13	10.6		2.70				
14	10.9		2.70				
15	11.1		2.70				
16	10.8		2.75				
17	10.2		2.80				
18	9.9		2.85				
19	9.2		2.80				
20	8.6		<2.2		2.70		
21	6.0		<2.1		2.55		
22	5.6		<1.9		2.50		
23	(5.2)		<1.8		(2.50)		

Time: 30.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 39

Time	March 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	foEs
00	7.4	320				2.40	
01	7.6	320				2.40	
02	6.9	320				2.45	
03	6.7	<320				2.35	
04	6.4	340				2.35	
05	6.2	340				2.35	
06	6.0	300	---	1.80		2.50	
07	8.1	250	120	2.20		2.90	
08	(9.8)	240	110	2.90	(3.00)		
09	11.2	240	110	3.30		2.85	
10	13.2	230	110	3.50		2.75	
11	14.2	230	110	3.70		2.70	
12	14.1	240	110	3.90		2.70	
13	14.2	230	110	3.90		2.65	
14	13.7	240	110	3.80		2.60	
15	13.2	240	110	3.60		2.65	
16	12.8	250	110	3.30		2.70	
17	12.6	250	110	2.70		2.75	
18	(12.0)	250	<140	2.10		2.80	
19	(10.8)	240			(2.80)		
20	(9.3)	250			2.70		
21	9.0	260			2.70		
22	(8.7)	280			(2.65)		
23	(7.9)	290			2.45		

Time: 15.0°E.

Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 41

Time	February 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	foEs
00	(4.6)				(2.50)		
01	(4.4)				(2.60)		
02	(4.7)				(2.50)		
03	(4.45)				(2.60)		
04	(3.8)				(2.65)		
05	(3.8)				(2.55)		
06	(3.6)				---		
07	(3.8)				---		
08	(3.8)		---	---	---		
09	(5.9)		121	----	(2.92)		
10	(6.85)		---	----	(2.60)		
11	(7.75)		---	(128)	----	2.65	
12	(7.5)		---	(137)	(2.40)	(2.65)	
13	(7.4)		---	<133	(2.35)	2.80	
14	(7.0)		---	131	(2.35)	2.72	
15	6.9		---	(131)	2.12	2.80	
16	7.0		<133	2.00		2.80	
17	(7.9)		---	---	1.8	2.75	
18	(7.0)					2.70	
19	(6.6)					2.65	
20	(6.45)					(2.55)	
21	(6.3)					(2.50)	
22	(5.6)					(2.60)	
23	(5.0)					(2.60)	

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 38

Time	March 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	foEs
00	5.0		310				
01	4.8	330					
02	4.5	320				E	
03	4.1	310				E	
04	3.7	305				E	
05	3.9	300				1.20	
06	5.8	275				2.00	
07	7.2	255				2.50	
08	8.8	245	4.8			2.90	
09	380	10.1	245	5.2		3.20	
10	330	11.3	235	5.6		3.40	
11	330	11.9	235	5.6		3.45	
12	340	12.3	240	5.8		3.40	
13	300	12.3	240	5.5		3.40	
14	340	12.2	240	5.5		3.30	
15	300	12.0	245	5.8		3.00	
16	11.3	250				2.60	
17	11.0	245				2.10	
18	10.2	240				1.30	
19	8.6	240				E	
20	7.2	250					
21	6.4	260					
22	5.7	290					
23	5.2	305					

Time: 30.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 40

Time	March 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	foEs
00	7.4	345				1.5	
01	7.4	340				1.4	
02	7.1	340				1.3	
03	6.6	330				1.4	
04	6.4	355				1.8	
05	6.2	360					
06	7.6	270	150		2.00	2.6	
07	9.8	250	125		2.60	3.0	
08	11.2	245	115		3.00	3.5	
09	12.6	240	110		3.40	4.1	
10	13.4	245	105		3.50	4.9	
11	14.0	245	105		3.60	5.0	
12	14.1	250	110		3.60	5.0	
13	14.0	240			3.70	4.3	
14	13.4	245			3.60	3.6	
15	12.8	245			3.50	3.8	
16	12.1	250			3.00	3.2	
17	11.5	250			2.60	3.5	
18	10.4	250			2.00	3.2	
19	9.2	250				3.6	
20	8.0	260				3.1	
21	7.7	270				3.0	
22	7.4	300				1.9	
23	7.4	350				2.35	

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 42

Time	February 1958						
	h'F2	foF2	h'F	foFl	h'E	foE	fEs
00	4.63	300					
01	4.54	311					
02	4.38	310					
03	4.30	318					
04	4.03	309					
05	3.76	293					
06	3.60	280					
07	4.52	270					
08	7.59	240					
09	10.50	230	111	2.52	3.3		
10	12.39	223	110	2.92	3.3		
11	13.30	224	108	3.15			
12	13.45	222	109	3.27			
13	13.55	225	110	3.30			
14	13.44	228	111	3.17			
15	13.40	230	111	2.96			
16	12.98	226	112	2.65	3.5		
17	12.08	221			2.00	2.9	
18	11.10	219			2.00	2.4	
19	8.46	217					
20	7.02	225					
21	6.06	244					
22	5.34	280					
23	5.00	291					

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 43

Slough, England (51.5°N, 0.6°W)								February 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		4.6	300		<1.0	2.40			
01		4.5	310		<1.0	2.40			
02		4.3	310		<0.9	2.40			
03		4.0	320		<1.0	2.45			
04		3.7	300		<1.1	2.50			
05		3.7	260		<1.1	2.50			
06		3.4	265		<1.1	2.50			
07		5.3	260	---	1.70	2.75			
00		8.4	240	115	2.20	3.05			
09		11.2	230	110	2.70	3.10			
10		12.6	225	110	3.00	3.00			
11		13.0	225	110	3.25	3.00			
12		13.5	225	105	3.35	2.95			
13		13.5	225	110	3.30	2.90			
14		13.6	225	110	3.20	2.90			
15		13.3	230	115	2.95	2.95			
16		(12.6)	225	120	2.55	(3.00)			
17		>11.3	230	---	1.90	(3.00)			
18		9.8	215		<1.6	2.95			
19		7.8	215		<1.6	2.05			
20		6.7	235		<1.6	2.65			
21		6.0	235		<1.6	2.50			
22		>5.1	250		<1.6	2.55			
23		4.9	260		<1.6	2.45			

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 45

Sao Paulo, Brazil (23.5°S, 46.5°W)								February 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		>14.0	270		<2.1	2.95			
01		>13.8	260		<2.1	3.10			
02		11.0	250		<2.2	3.00			
03		8.6	250		<2.2	2.75			
04		7.0	300		<2.3	2.45			
05		7.6	295		<2.2	2.30			
06		7.6	300	----	<2.4	2.70			
07		9.8	260		2.80	2.80			
08		10.8	250		3.40	3.8	2.70		
09		11.2	240	---	3.70	4.4	2.50		
10		11.6	240	---	4.00	4.5	2.40		
11		12.2	(240)	---	4.6	2.45			
12		13.0	---	6.8	4.8	2.40			
13		13.6	---	---	4.8	2.40			
14		(420)	14.1	(250)	6.7	4.3	2.50		
15		410	14.0	250	6.5	4.3	2.50		
16		425	14.0	250	---	3.50	2.50		
17		14.0	260	---	3.30	3.4	2.50		
18		>14.1	280	2.55	<2.6	2.50			
19		14.0	320		<2.2	2.40			
20		>14.0	350		<2.2	(2.55)			
21		14.0	320		<2.2	2.60			
22		>14.0	285		<2.1	(2.70)			
23		>14.0	260		<2.1	2.95			

Time: 45.0°W.

Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 47

Scott Base (77.8°S, 166.8°E)								February 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	(500)	5.0	300	3.0	140	2.0	2.35		
01	(530)	4.7	320	3.2	135	2.0	2.40		
02	(460)	4.7	310	3.3	140	2.2	2.35		
03	(410)	5.0	290	3.8	130	2.2	2.50		
04	460	5.2	300	3.6	130	2.3	2.40		
05	460	5.3	290	3.9	120	2.4	2.40		
06	400	5.9	270	4.0	115	2.0	2.45		
07	400	6.2	260	4.2	110	2.8	2.50		
08	420	6.0	250	4.3	110	2.9	2.40		
09	400	6.4	250	4.5	105	3.0	2.45		
10	440	6.1	240	4.6	105	3.2	2.40		
11	500	6.4	240	4.8	105	3.1	2.35		
12	450	6.6	240	4.0	105	3.1	2.30		
13	490	6.0	240	4.7	105	3.2	2.40		
14	480	6.4	240	4.8	105	3.2	2.30		
15	450	6.6	250	4.7	105	3.1	2.30		
16	440	6.6	250	4.4	105	3.0	2.30		
17	440	7.0	260	4.3	105	2.9	2.40		
18	430	7.1	260	4.1	110	2.7	2.40		
19	400	6.7	270	4.0	130	2.5	2.40		
20	370	6.6	280	3.7	140	2.3	2.40		
21	380	5.9	290	3.6	140	2.2	2.35		
22	(400)	5.4	300	3.4	140	2.1	2.40		
23	---	5.4	300	---	145	2.0	2.50		

Time: 165.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 43

Table 44

Bunia, Belgian Congo (1.5°N, 30.2°E)								February 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00			255	11.0					1.4
01			245	10.8					2.56
02			230	10.0					2.73
03			220	7.6					1.4
04			240	5.7	---	---	---		2.94
05			(250)	9.0	250	---	120	2.6	2.82
06			(255)	10.8	240	---	110	3.4	2.58
07			12.0	230	---	110	3.7	4.2	2.31
08			13.0	225	---	110	4.0		2.20
09			13.4	220	---	105	4.1		2.14
10			(405)	14.0	225	---	110	4.2	2.12
11			425	14.0	220	---	105	4.1	2.09
12			440	14.2	220	---	110	4.0	2.12
13			425	14.3	230	---	110	3.9	2.14
14			435	14.4	240	---	110	3.5	2.15
15			480	14.0	260	---	110	3.0	2.13
16			480	14.0	290	---	140	2.0	2.12
17			390	13.8					3.0
18			355	(14.3)					1.96
19			285	(14.4)					2.2
20			250	(13.2)					(2.24)
21			235	12.0					2.2
22			230	11.6					2.52
23			250	11.6					2.52

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 46

Cape Hallett (72.3°S, 170.3°E)								February 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00			(4.8)	335		141	1.6		(2.40)
01			(4.2)	355		116	1.7	2.0	(2.40)
02			(4.0)	335		113	1.0	3.2	(2.40)
03			4.8	315		111	2.0	2.2	2.60
04			(5.4)	300		111	2.2	2.7	(2.45)
05			(500)	(5.3)	270	3.4	111	2.5	(2.40)
06			(470)	6.0	240	109	2.8		(2.50)
07			(530)	6.4	250	4.5	105	3.0	(2.50)
08			520	7.1	250	4.4	103	3.2	2.50
09			450	(7.5)	230	4.6	101	3.3	(2.40)
10			465	7.2	230	4.8	101	3.3	2.50
11			460	7.2	220	4.8	101	3.4	2.45
12			470	6.3	225	5.0	101	3.2	2.35
13			440	6.6	220	4.7	101	3.3	2.55
14			490	6.5	225	4.9	101	3.2	(2.40)
15			465	6.7	235	4.8	103	3.1	3.6
16			440	7.2	240	4.7	107	3.0	2.50
17			420	6.9	250	4.4	107	2.9	2.50
18			430	7.3	260	4.0	109	2.7	2.45
19			(435)	(7.2)	270	3.9	111	2.4	(2.50)
20			(7.0)	290	3.4	111	2.1		(2.50)
21			5.7	295	---	117	1.8		2.45
22			5.6	305	---	135	1.6		2.50
23			(5.4)	290	---	163	1.5		(2.60)

Time: 165.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 40

Godhavn, Greenland (69.
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Table 49

Sao Paulo, Brazil (23.5°S, 46.5°W)							January 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	11.4	320			<2.2	2.75		
01	12.0	305			<2.3	2.70		
02	10.6	295			<2.2	2.75		
03	10.0	280			<2.2	2.70		
04	8.4	270			<2.2	2.60		
05	6.7	295			<2.2	2.30		
06	7.7	280	<2.35	<2.4	2.60			
07	8.9	260			2.90	2.55		
08	10.0	250			3.45	4.0	2.30	
09	10.4	240	---	---	4.2	2.15		
10	10.8	240	6.8	---	4.4	2.15		
11	---	11.4 (230)	6.9	---		2.10		
12	(600)	11.8 (230)	6.9	---		2.20		
13	560	13.0 (230)	6.6	---		2.25		
14	540	13.0 (240)	6.6	---		2.30		
15	510	>13.0 235	6.5	3.90	4.4	2.30		
16	500	12.6 250	6.1	3.60	4.0	2.35		
17	---	12.6 260	---	3.20		2.30		
18	12.4	290		2.55	<3.1	2.30		
19	12.2	350		<2.8		2.20		
20	>11.4	460		<2.3		(2.15)		
21	12.8	420		<2.7		(2.25)		
22	(13.0)	400		<2.3		(2.50)		
23	(12.6)	340		<2.3		(2.55)		

Time: 45.0°W.

Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 51

Moscow, U.S.S.R. (55.5°N, 37.3°E)							December 1957	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	4.1	320				2.35		
01	4.0	340				2.40		
02	3.8	330				2.35		
03	3.6	320				2.45		
04	3.7	295			1.0	2.50		
05	3.5	280			1.8	2.55		
06	3.3	270				2.60		
07	4.8	250		1.30		2.60		
08	9.1	245		2.10	2.6	2.90		
09	12.2	240		2.50	2.9	2.95		
10	13.9	230		2.80	3.0	2.90		
11	14.5	230		2.90	3.1	2.90		
12	14.9	230		2.90	3.2	2.85		
13	15.3	240		2.75	3.0	2.80		
14	14.6	225		2.40	2.7	2.80		
15	13.7	230		1.90	2.2	2.80		
16	12.2	230			2.4	2.85		
17	10.5	220			1.9	2.85		
18	8.5	225			2.0	2.80		
19	6.7	230				2.80		
20	5.3	255				2.65		
21	4.7	270				2.55		
22	4.6	300				2.40		
23	4.3	320				2.40		

Time: 30.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 53

Concepcion, Chile (36.6°S, 73.0°W)							November 1957	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	11.0	340				3.6	2.40	
01	10.2	330				3.6	2.45	
02	9.6	315				3.4	2.40	
03	9.0	330				3.7	2.35	
04	8.9	340				2.8	2.25	
05	>9.35	270	(133)	2.22	3.6	2.35		
06	10.5	245	111	3.00	3.8	2.50		
07	11.2	240	109	3.50	3.9	2.42		
08	---	11.6 230	---	109 (3.05)	4.6	2.42		
09	(450)	12.1 (235)	7.0	109	4.12	5.6	2.40	
10	440	12.7 (230)	7.0	111	4.22	5.4	2.40	
11	445	12.95 (235)	6.7	111 (4.30)	5.2	2.35		
12	440	12.05 <240	6.8	111	---	5.0	2.35	
13	440	12.8 230	6.6	111 (4.30)	4.8	2.35		
14	440	12.6 245	6.4	111	4.15	5.1	2.40	
15	440	12.1 240	---	111	4.00	5.2	2.30	
16	(425)	11.6 (250)	---	111	3.55	5.6	2.40	
17	---	11.3 <265	---	111	3.05	5.4	2.40	
18	11.2 (290)	119	---		4.8	2.40		
19	10.95 (350)				4.5	2.30		
20	10.8 (410)				4.4	2.25		
21	11.0 <410				3.8	2.25		
22	11.05 <390				4.1	2.30		
23	11.1 360				3.9	2.40		

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 50

Hobart, Tasmania (42.9°S, 147.2°E)							January 1958	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00			6.6	330				
01			5.8	340				
02			>5.2	350				
03			>5.2	340				
04			4.3	340				
05			>5.0	320				
06			5.8	260				
07	6	240	4.8	110	3.30	4.0		
08	600	6.3	250	5.1	110	3.70	4.2	2.25
09	560	6.7	(230)	5.4	100	3.95	5.6	2.25
10	550	7.2	230	5.6	---	---	5.3	2.15
11	600	7.2	240	5.8	100		5.2	2.15
12	570	7.4	(240)	5.9	100		5.4	2.20
13	550	7.6	(240)	6.0	100		5.2	2.15
14	550	7.4	(230)	5.9	100	4.10	5.3	2.20
15	530	7.6	230	5.8	---	---	5.0	2.15
16	550	7.6	230	5.5	100	3.90	4.0	2.20
17	500	7.3	230	5.2	110	3.60		
18	7.5	250		120	3.10	3.5		
19	7.4	280		120	2.50	4.0		
20	7.4	320				3.3		
21	7.5	330				3.5		
22	7.6	330				3.4		
23	>7.0	330				3.2		

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 52

Ellsworth (77.7°S, 41.1°W)							December 1957	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	515	(6.45)	310	(4.2)	111	2.85	3.1	(2.20)
01	540	6.1	300	4.2	109	2.80	3.4	2.20
02	525	6.6	295	4.3	108	2.80	3.0	2.20
03	540	6.8	280	4.3	104	3.00	3.1	2.15
04	565	6.8	280	4.3	105	3.00	3.2	2.15
05	570	6.0	265	4.4	105	3.20	3.5	2.15
06	600	6.0	255	4.6	105	3.35		
07	610	5.8	250	4.7	103	3.40		
08	740	5.6	240	4.8	103	3.48		
09	685	5.9	250	5.0	103	3.58		
10	705	5.8	250	5.0	101	(3.50)		
11	710	5.85	250	5.1	101	3.70		
12	705	5.9	240	5.1	101	3.70		
13	640	6.0	245	5.2	101	3.72		
14	605	6.1	250	5.2	101	3.58		
15	580	6.3	250	5.0	101	3.58		
16	560	6.4	250	5.0	102	3.45		
17	520	6.6	250	4.7	105	>3.35		
18	520	6.8	260	4.8	105	3.20		
19	500	6.8	280	4.6	107	3.05		
20	485	6.9	280	4.6	110	3.00		
21	495	6.95	280	(4.5)	111	2.98		
22	500	6.95	280	(4.3)	111	2.80		
23	525	6.3	300	4.4	111	2.75	3.2	2.25

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 54

Ellsworth (77.7°S, 41.1°W)							November 1957	
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(505)	(7.5)	320	---	126	2.60		(2.25)
01	470	7.45	320	---	119	2.40	2.8	2.25
02	510	7.0	310	4.1	120	2.60	3.0	2.25
03	500	6.8	300	4.0	113	2.70		
04	515	7.1	280	4.2	117	2.80		
05	515	6.9	270	4.5	111	2.98		
06	530	6.4	260	4.6	110	3.05		
07	545	7.4	255	4.7	110	3.18		
08	545							

Table 55

Pole Station (90.0°S)								November 1957		
Time	h'F2	f0F2	h'F	f0F1	h'E	foE	foEs	(M3000)F2		
00	540	(6.4)	(280)	(4.4)	114	>3.10		(2.35)		
01	600	(6.35)	<285	(4.3)	117	(3.10)		(2.30)		
02	595	(6.3)	(280)	4.5	115	(3.05)		(2.20)		
03	560	(6.55)	<280	(4.4)	113	(3.15)		(2.20)		
04	560	(6.2)	(280)	(4.4)	113	(3.05)		(2.20)		
05	540	(6.4)	(280)	4.2	115	(3.00)		(2.20)		
06	580	(6.3)	<285	4.4	113	(3.10)		(2.20)		
07	570	(6.5)	<285	4.2	116	(2.90)		(2.12)		
08	615	(5.85)	(270)	4.2	115	(3.10)		(2.10)		
09	645	(5.5)	(265)	4.3	117	(3.10)		2.08		
10	(765)	5.1	<280	4.4	113	(3.20)		G		
11	<740	5.0	<300	4.2	115	(3.40)		2.08		
12	725	5.1	<290	(4.4)	117	3.40		2.10		
13	(670)	(5.85)	<290	4.4	113	(3.10)		(2.20)		
14	585	6.15	(280)	4.3	(117)	(3.12)		2.25		
15	540	6.6	<300	(4.5)	115	(3.12)		2.30		
16	500	(6.5)	(280)	(4.5)	111	(3.15)		2.30		
17	550	(6.15)	<290	(4.3)	115	(3.10)		(2.30)		
18	530	(5.7)	<290	(4.3)	115	(3.18)		2.30		
19	575	(5.9)	<280	(4.4)	115	(3.20)		2.30		
20	550	(6.15)	(270)	(4.5)	115	(3.15)		2.40		
21	(630)	(6.15)	(270)	(4.6)	117	(3.15)		2.45		
22	585	(5.95)	270	4.5	111	>3.05		(2.25)		
23	630	(6.15)	270	4.4	113	---	3.9	(2.35)		

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 57

Moscow, U.S.S.R. (55.5°N, 37.3°E)								August 1957		
Time	h'F2	f0F2	h'F	f0F1	h'E	foE	foEs	(M3000)F2		
00			5.9	300			2.1	2.55		
01			5.6	310			(2.5)	2.50		
02			5.3	300	E		(2.6)	2.50		
03			5.0	300	E		(2.3)	2.55		
04	320		5.4	290	2.6	1.4	2.3	2.70		
05	300		5.9	260	3.5	2.1	2.8	2.80		
06	325		6.8	250	4.4	2.6	3.2	2.70		
07	350		7.2	240	4.9	3.0	3.9	2.70		
08	360		7.7	230	5.0	3.4	4.4	2.70		
09	370		7.9	235	5.3	3.5	4.2	2.65		
10	380		8.2	230	5.5	3.6	4.3	2.60		
11	375		8.1	225	5.5	3.7	4.3	2.70		
12	365		8.1	225	5.5	3.7	4.2	2.60		
13	390		7.9	220	5.6	3.6	4.2	2.65		
14	350		7.8	225	5.5	3.6	3.6	2.70		
15	320		7.8	225	5.2	3.4	3.5	2.70		
16	330		7.6	240	5.0	3.1	3.7	2.80		
17	290		7.6	250	4.3	2.7	3.6	2.80		
18	260		7.6	260	3.9	2.2	3.3	2.80		
19	280		7.5	260	3.5	1.5	(3.0)	2.80		
20			7.8	260		1.2	(3.5)	2.75		
21			7.3	270		E	(3.1)	2.70		
22			6.6	275			(3.0)	2.70		
23			6.2	290			(2.4)	2.60		

Time: 30.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 59

Tsumeb, South W. Africa (19.2°S, 17.7°E)								July 1957		
Time	h'F2	f0F2	h'F	f0F1	h'E	foE	foEs	(M3000)F2		
00			3.29	265		3.0	2.02			
01			2.92	(270)		2.8	2.80			
02			2.92	(255)		2.0	2.90			
03			2.58	(235)		2.6	2.90			
04			2.45	(260)		2.8	>2.90			
05			2.50	(250)		3.0	2.99			
06			(4.16)	270	---	3.3	<2.59			
07			8.27	235	120	2.27	3.3	3.31		
08			9.75	225	108	3.10		3.25		
09			11.34	220	105	3.50		3.10		
10			11.60	220	105	3.75		2.95		
11			11.40	215	102	3.88		2.95		
12			11.20	210	105	3.88	4.4	2.62		
13			11.20	215	105	3.80	4.7	2.72		
14			11.10	225	105	3.70	4.6	2.70		
15			11.00	225	105	3.40	4.6	2.70		
16			11.30	240	---	3.00	4.4	2.75		
17			11.30	240	---	3.8		2.94		
18			10.10	225		3.7		3.10		
19			7.80	205		3.6		3.11		
20			6.38	220		3.2		3.05		
21			5.40	225		3.1		3.00		
22			>5.05	230		2.9		3.05		
23			>3.01	240		2.9		2.86		

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 55

Pole Station (90.0°S)								November 1957		
Time	h'F2	f0F2	h'F	f0F1	h'E	foE	foEs	(M3000)F2		
00	540	(6.4)	(280)	(4.4)	114	>3.10		(2.35)		
01	600	(6.35)	<285	(4.3)	117	(3.10)		(2.30)		
02	595	(6.3)	(280)	4.5	115	(3.05)		(2.20)		
03	560	(6.55)	<280	(4.4)	113	(3.15)		(2.20)		
04	560	(6.2)	(280)	(4.4)	113	(3.05)		(2.20)		
05	540	(6.4)	(280)	4.2	115	(3.00)		(2.20)		
06	580	(6.3)	<285	4.4	113	(3.10)		(2.20)		
07	570	(6.5)	<285	4.2	116	(2.90)		(2.12)		
08	615	(5.85)	(270)	4.2	115	(3.10)		(2.10)		
09	645	(5.5)	(265)	4.3	117	(3.10)		2.08		
10	(765)	5.1	<280	4.4	113	(3.20)		G		
11	<740	5.0	<300	4.2	115	(3.40)		2.08		
12	725	5.1	<290	(4.4)	117	3.40		2.10		
13	(670)	(5.85)	<290	4.4	113	(3.10)		(2.20)		
14	585	6.15	(280)	4.3	(117)	(3.12)		2.25		
15	540	6.6	<300	(4.5)	115	(3.12)		2.30		
16	500	(6.5)	(280)	(4.5)	111	(3.15)		2.30		
17	550	(6.15)	<290	(4.3)	115	(3.10)		(2.30)		
18	530	(5.7)	<290	(4.3)	115	(3.18)		2.30		
19	575	(5.9)	<280	(4.4)	115	(3.20)		2.30		
20	550	(6.15)	(270)	(4.5)	115	(3.15)		2.40		
21	(630)	(6.15)	(270)	(4.6)	117	(3.15)		2.45		
22	585	(5.95)	270	4.5	111	>3.05		(2.25)		
23	630	(6.15)	270	4.4	113	---	3.9	(2.35)		

Table 56

Ellsworth (77.7°S, 41.1°W)								October 1957		
Time	h'F2	f0F2	h'F	f0F1	h'E	foE	foEs	(M3000)F2		
00	---		7.15		370	---	<149	1.90		2.25
01	---		(7.5)		360	---	<140	2.00		(2.22)
02	---		(7.5)		360	---	132	2.20		(2.25)
03	445		(7.7)		350	---	131	2.15		(2.25)
04	440		7.8		320	(3.8)	123	2.45		2.20
05	445		7.5		290	4.1	116	2.50		2.30
06	470		7.0		280	4.1	115	2.70		2.30
07	500		7.05		265	4.5	115	2.90		2.32
08	480		7.3		260	4.8	111	3.00		2.35
09	500		7.35		255	5.3	111	3.00		2.35
10	(500)		7.65		250	5.4	111	>3.00		2.40
11	500		8.0		250	5.2	111	3.15		2.55
12	(510)		8.3		250	(5.4)	111	3.15		2.50
13	---		8.55		250	5.4	109	3.12		2.60
14	---		9.0		250	5.4	109	3.12		2.60
15	---		9.3		250	5.4	109	3.12		2.65
16	---		9.5		260	5.4	115	2.88		2.70
17	---		9.95		270	5.4	119	2.75		2.70
18	---		10.5		270	5.4	122	2.50		2.65
19	---	</								

Table 61

Time	*	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	June 1957
00	(440)	<9.7				(2.50)			
01	(440)	<9.5				(2.50)			
02	(440)	(8.6)				(2.45)			
03	(420)	(7.9)				(2.55)			
04	(400)	<7.5				(2.60)			
05	380	7.2				2.70			
06	360	9.2				2.80			
07	360	10.8				2.80			
08	440	>11.4				^ 50			
09	510	11.6				2.20			
10	520	11.6				2.20			
11	560	>11.3				2.05			
12	560	11.3				2.10			
13	---	---				---			
14	560	11.0				2.10			
15	540	11.2				2.15			
16	520	11.3				2.20			
17	520	>11.3				2.20			
18	(520)	>11.0				(2.20)			
19	560	>10.7				2.10			
20	---	(9.8)				---			
21	(560)	(9.7)				(2.10)			
22	(520)	>10.0				(2.20)			
23	(480)	>9.8				(2.30)			

Time: 75.0°E.

Sweep: 0.75 Mc to 21.5 Mc in 5 minutes, manual operation.

\*Height at 0.83 foF2.

Table 63

Time	*	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	June 1957
00	(380)	>10.2				(2.70)			
01	---	>10.1				---			
02	---	>9.5				---			
03	---	(8.8)				---			
04	---	(8.0)				---			
05	(280)	7.4				(3.25)			
06	320	>8.9				3.00			
07	320	11.4				3.00			
08	370	13.0				2.75			
09	440	>13.1				2.50			
10	480	>12.7				2.30			
11	520	11.8				2.20			
12	520	11.4				2.20			
13	560	11.4				2.10			
14	540	11.4				2.15			
15	540	11.5				2.15			
16	520	11.6				2.20			
17	500	>11.6				2.25			
18	480	>10.9				2.40			
19	520	(10.6)				2.20			
20	(560)	>10.0				(2.15)			
21	520	>10.0				2.20			
22	(460)	>10.5				(2.40)			
23	(420)	(10.5)				(2.55)			

Time: 75.0°E.

Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.

\*Height at 0.83 foF2.

Table 65

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	April 1957
00	(6.0)	290				2.45			
01	(5.7)	300				2.50			
02	5.8	300				2.50			
03	(5.3)	300				2.50			
04	(5.0)	290				2.60			
05	(4.3)	290				2.55			
06	>4.3	280			<1.50	2.65			
07	6.8	260				2.00	3.00		
08	9.5	250				2.75	3.00		
09	10.3	240				(3.15)	2.95		
10	11.5	240				3.30	2.80		
11	12.0	230				<3.50	2.88		
12	>12.5	230				3.50	2.70		
13	12.2	230				<3.60	2.70		
14	12.0	240				3.50	2.70		
15	>12.0	240				3.30	2.80		
16	>12.0	250				2.80	2.75		
17	>11.5	250				<2.30	(2.90)		
18	11.0	250				2.80	(1.80)		
19	(9.5)	240				2.70			
20	>8.0	250				2.65			
21	7.5	260				2.60			
22	6.9	280				2.50			
23	6.4	280				2.50			

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 62

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	June 1957
00			9.6	360					2.65
01			9.8	360					>2.60
02			8.6	350					2.60
03			(0.1)	340					(2.70)
04			>7.3	290					3.00
05			>6.8	250					3.10
06			8.7	275		115	---		2.95
07			10.8	250		110	3.0		2.00
08			12.0	240		115	---	6.2	2.60
09			12.3	220		110	---	8.0	2.35
10			12.4	215		---	---	10.9	2.15
11			11.4	215		---	---	11.0	2.10
12			11.1	220		---	---	11.0	<2.10
13			10.9	220		---	---	11.9	2.05
14			11.2	220		110	---	11.4	2.05
15			11.4	230		110	3.6	11.0	2.10
16			11.6	240		110	3.6	9.4	2.10
17			11.6	265		115	3.0	8.5	2.20
18			11.9	300				5.6	2.30
19			11.4	380					2.20
20			10.2	420					2.15
21			>9.5	435					<2.20
22			10.0	410					<2.30
23			10.4	385					2.50

Time: 75.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

\*Data from June 1 through June 19.

Table 64

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	June 1957*
00			(2.2)	400					(2.35)
01			(2.2)	400					(2.40)
02			(2.1)	380					(2.30)
03			(2.1)	400					(2.30)
04			(3.6)	350					(2.35)
05			(4.0)	345					(2.45)
06			(2.2)	310					(2.50)
07			3.6	290					(2.60)
08			(2.9)	250					(2.60)
09			(2.8)	255					(2.70)
10			(3.6)	(290)					(2.60)
11			(4.0)	230					(2.95)
12			(4.5)	230					(3.00)
13			4.3	240					3.00
14			(3.9)	230					(3.20)
15			(3.4)	250					(3.30)
16			(3.0)	250					(3.10)
17			(2.3)	260					(3.00)
18			(2.0)	(300)					(2.80)
19			(1.8)	<305					(2.80)
20			(1.7)	<380					(2.60)
21			(1.9)	370					2.5
22			(1.9)	(450)					2.8
23			(2.1)	400					2.2

Time: 45.0°W.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 66

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	March 1957
00			6.8	300					2.40
01			6.2	300					2.40
02			6.0	300					2.40
03			5.3	300					2.40
04			>4.5	300					2.40
05			>4.2	<300					2.45
06			4.9	290					2.60
07			6.7	250					2.80
08			7.8	240					2.90
09			(6.20)	8.7	230				3.25
10			(4.40)	>9.0	220				3.25
11			4.0	10.0	220				3.65
12			(5.10)	10.5	220				3.75
13			5.00	10.4	230				3.70
14			(500)	10.2	230				3.60
15			(490)	10.4	230				3.50
16			(460)	10.0	240				3.60
17			>10.2	250					2.60
18			>9.9	260					2.65
19			>9.5	260					2.60
20			9.0	260					2.55
21			>8.0	280					2.50
22			7.5	280					2.45
23			>7.1	300					2.45

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 67

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	January 1957
00	(5.9)	(350)			2.2		---		
01	(5.5)	360			2.2	(2.3)			
02	(5.5)	350			2.2	(2.3)			
03	>5.5	300			2.0	---			
04	5.2	(290)			2.1	(2.5)			
05	(5.8)	(250)			>2.2	(2.55)			
06	---	>6.0	---	---	>2.2	---			
07	420	6.6	---	5.5	>2.2	(2.6)			
08	450	7.1	---	5.4	>2.2	(2.6)			
09	470	7.2	---	5.6	>2.2	2.4			
10	480	7.4	---	5.6	>2.2	2.3			
11	500	7.5	---	5.8	>2.2	2.3			
12	500	7.5	---	5.6	---	2.4			
13	500	>7.5	(250)	5.8	---	2.3			
14	470	7.6	---	5.6	>2.2	2.3			
15	460	7.6	---	5.4	>2.2	2.3			
16	440	>7.5	---	5.2	>2.2	2.4			
17	420	(7.6)	---	4.9	>2.2	2.4			
18	---	>7.5	(250)	---	>2.3	(2.5)			
19	---	>7.5	(300)	---	>2.2	2.3			
20	---	>7.0	320	---	2.2	(2.2)			
21	---	>6.7	(350)	---	2.5	---			
22	---	---	(330)	---	3.5	---			
23	---	---	(350)	---	2.6	---			

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 69

Time	Oakar, French W. Africa (14.1°N, 17.4°W)									February 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	foEs	(M3000)F2		
00	(13.6)							3.36		
01	12.0							3.34		
02	10.9							3.42		
03	7.6							3.26		
04	5.7							3.22		
05	5.2							3.19		
06	4.4							3.04		
07	8.6							3.38		
08	255	10.8	4.35	111	2.90	3.6		3.40		
09	270	12.2	4.70	109	3.40			3.32		
10	285	13.6	5.00	109	3.55			3.23		
11	300	13.6	5.15	107	3.65			3.08		
12	325	13.7	5.20	107	3.80			2.91		
13	340	13.3	5.20	107	3.80			2.79		
14	350	13.4	5.10	109	3.65			2.76		
15	360	13.2	4.90	109	3.50			2.74		
16	340	13.1	4.55	111	3.30	4.3		2.80		
17	315	13.0	---	113	2.70	4.3		2.75		
18	---	12.9		122	1.90	3.5		2.71		
19		13.1						2.55		
20		13.1						2.74		
21		13.4						3.0	2.87	
22		13.8						2.7	3.11	
23		14.2						3.27		

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 71

Time	Tananarive, Madagascar (18.9°S, 47.6°E)									February 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	foEs	(M3000)F2		
00		7.8						2.85		
01		7.0						3.05		
02		6.3						3.00		
03		5.8						2.90		
04		5.4						3.00		
05		4.2						2.95		
06		5.0						3.00		
07		7.0						3.25		
08		280	8.1	(4.90)	107	3.10		3.05		
09		300	9.3	5.25	107	3.50		2.85		
10		320	10.1	5.45	105	3.70		2.70		
11		340	11.0	5.55	103	3.85		2.70		
12		335	>11.0	5.60	103	3.90		2.75		
13		330	11.4	5.60	103	3.90		2.75		
14		325	>11.5	5.55	103	(3.80)		(2.80)		
15		315	11.4	5.50	104	3.80		<2.90		
16		305	>11.0	5.25	105	3.50		2.85		
17		285	10.6	----	109	2.95		2.90		
18		(260)	10.8		111	2.20		3.00		
19		10.5				2.7		3.00		
20		9.8				1.8		2.90		
21		8.8				1.5		2.85		
22		8.0				2.0		2.85		
23		7.9				1.6		2.85		

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 68

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2	December 1956
00			(6.0)	(360)				2.2	(2.25)
01			(5.7)	(350)				2.2	(2.3)
02			(5.5)	(340)				2.2	(2.4)
03			5.0	(340)				1.8	2.2
04			(5.2)	(300)				2.2	2.5
05			5.6	250				2.2	2.45
06			(450)	6.0	(260)	4.9		>2.2	2.5
07			540	6.1	---	5.2		>2.2	2.35
08			510	6.6	---	5.4		>2.2	2.35
09			540	6.6	---	5.6		>2.2	2.3
10			550	6.8	---	5.7		>2.2	2.25
11			550	7.0	---	5.6		---	2.3
12			540	7.4	---	5.7		---	2.3
13			520	7.5	---	5.7		---	2.3
14			500	7.6	---	5.6		>2.2	2.3
15			500	7.5	---	5.5		>2.2	2.3
16			460	>7.5	---	5.4		>2.2	2.3
17			430	7.7	---	5.2		>2.2	2.4
18			(500)	(7.7)	(320)	---		>2.2	(2.4)
19			---	(7.5)	320	---		>2.1	2.2
20				7.0	(350)	1.9		2.2	(2.3)
21				(7.3)	(350)	1.7		2.2	(2.3)
22				---	---			5.3	---
23				(5.9)	(380)	4.6		4.6	(2.2)

Time: 157.5°E.

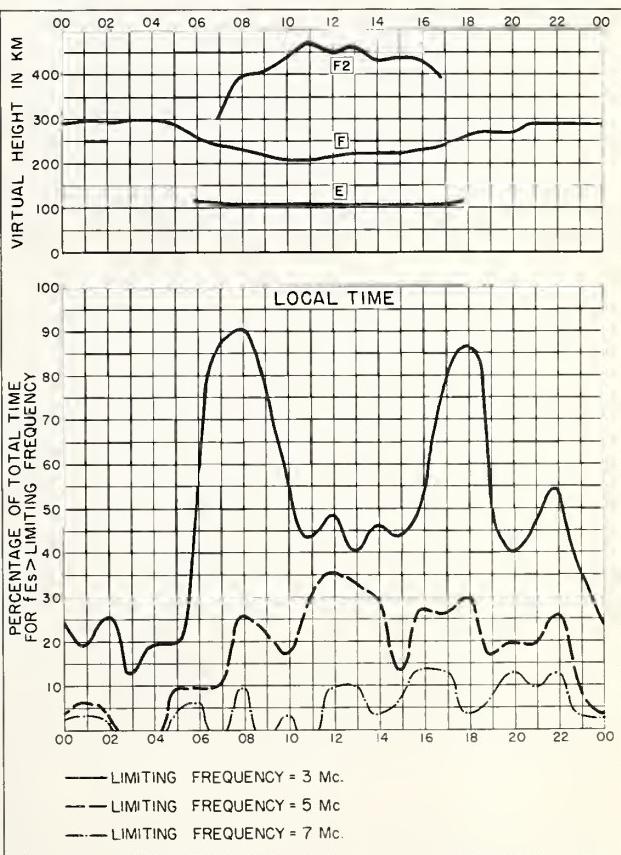
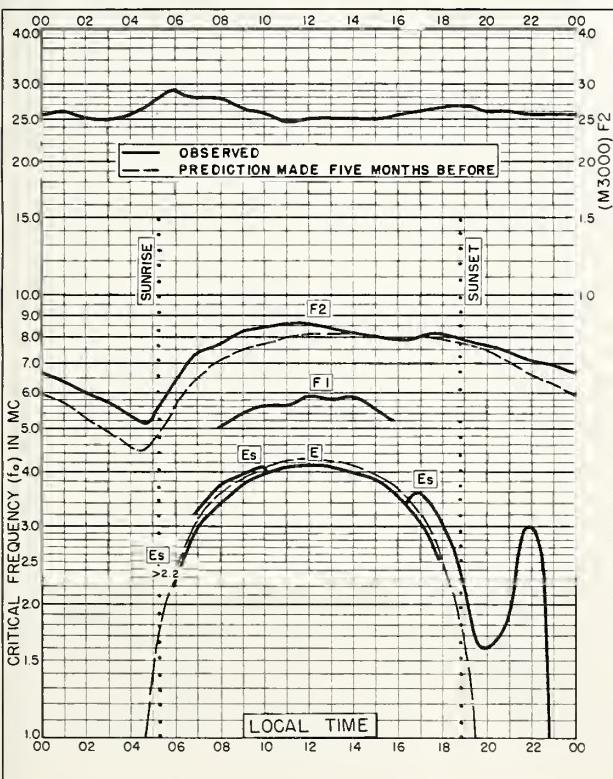
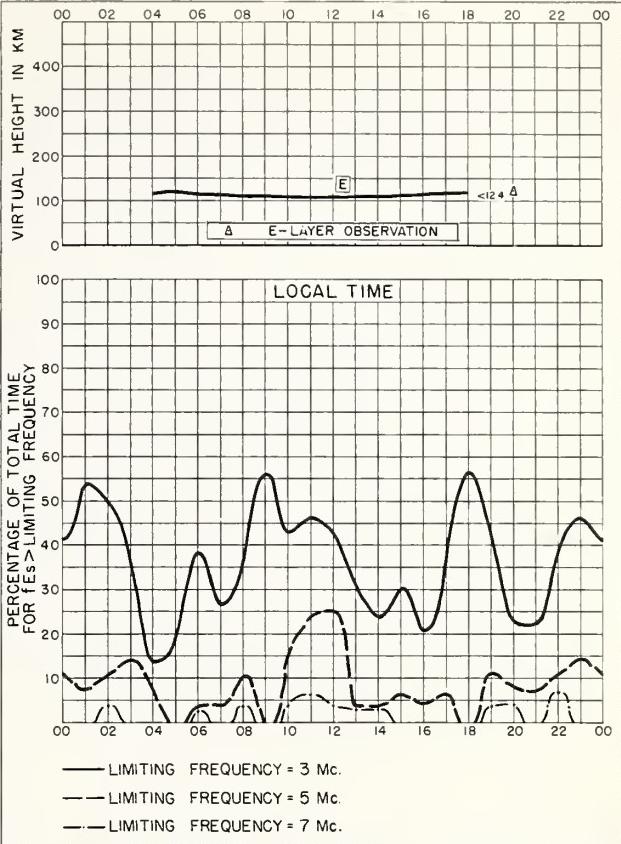
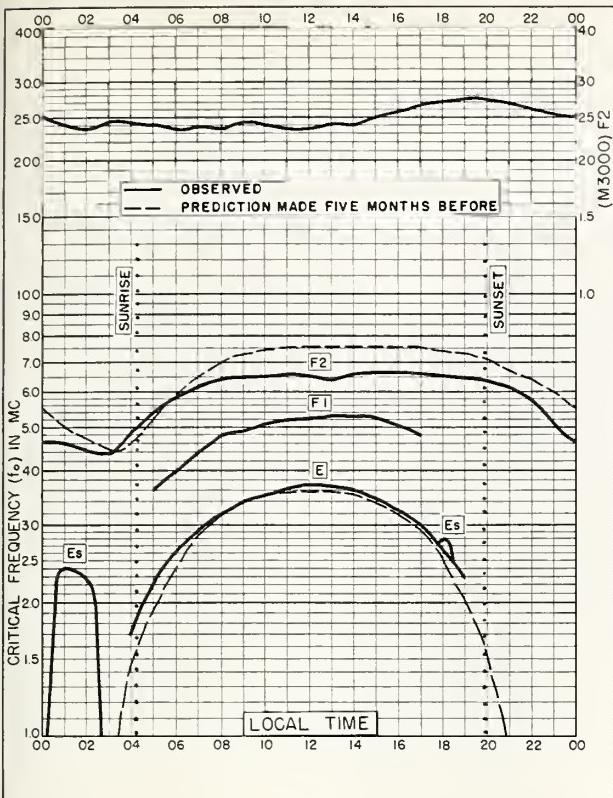
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

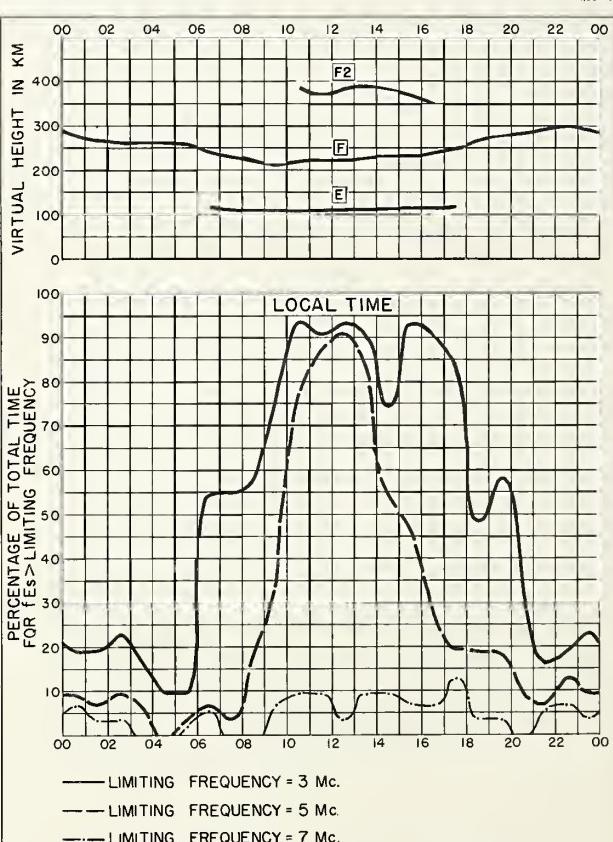
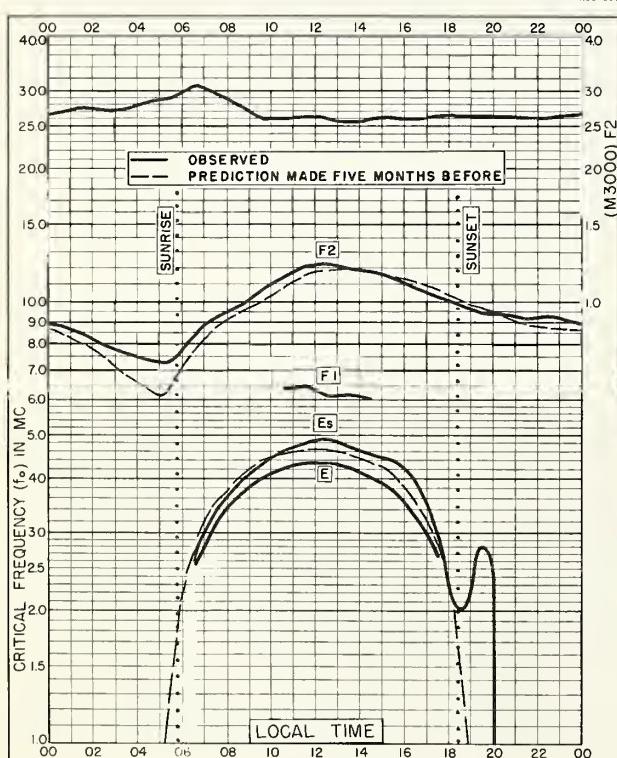
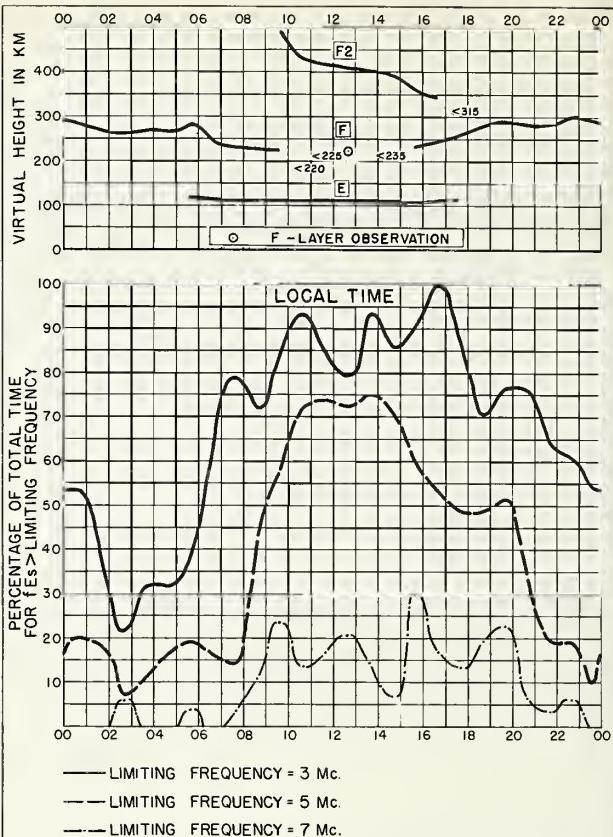
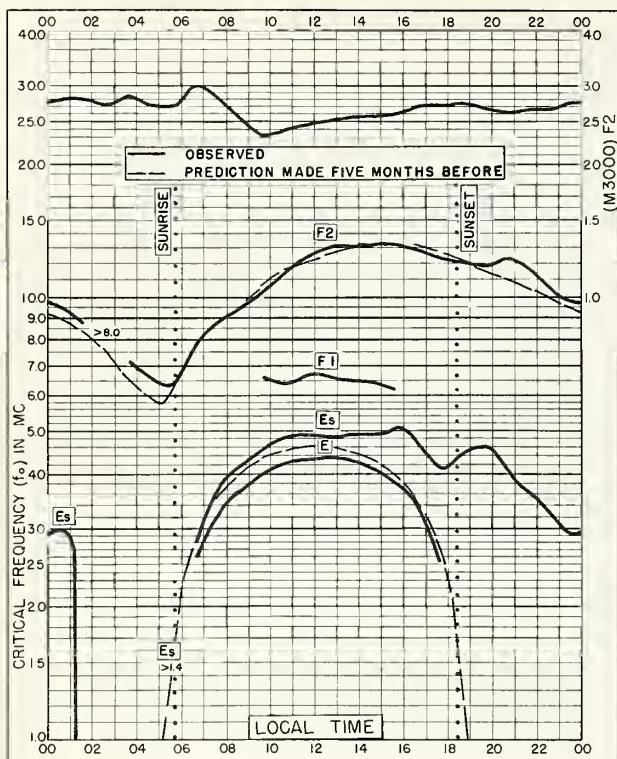
Table 69

Time	Djibouti, French Somaliland (11.5°N, 43.1°E)									February 1956
Time	h'F2	foF2	h'F1	foF1	h'E	foE	foEs	(M3000)F2		
00					7.5			2.5	3.18	
01					7.2			2.4	3.28	
02					6.0			2.5	3.30	
03					4.9			2.5	3.36	
04					3.6			2.4	3.34	
05					3.1			2.4	3.42	
06					3.1			2.4	3.19	
07					7.2			2.5	3.27	
08					270	9.5		3.5	3.24	
09					290	10.3		3.20	4.6	
10					305	10.8		3.50	6.5	
11					310	10.7		3.60	6.5	
12					(320)	10.6		3.60	6.5	
13					---	10.5		3.70	6.4	
14					310	10.8		3.55	6.4	
15					---	10.7		3.40	6.4	
16					---	10.9		3.10	6.3	
17					---	11.0		1.19	(2.60)	
18					---	9.9		1.60	3.0	
19					---	9.0			2.4	
20					---	9.1			2.4	
21					---	8.7			2.5	
22					---	8.0			2.4	
23					---	7.5			2.5	

Time: 35.6°E.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.





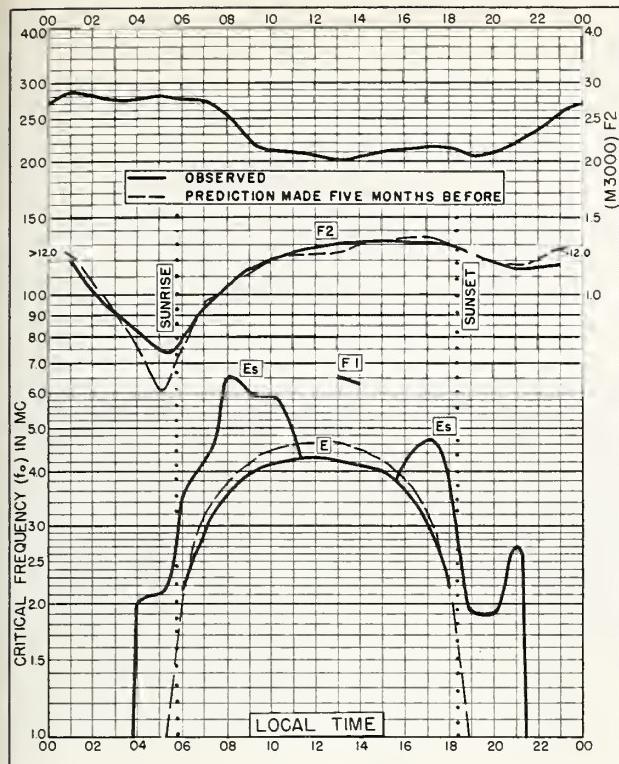


Fig. 9. BAGUIO, P.I.  
16.4°N, 120.6°E AUGUST 1958

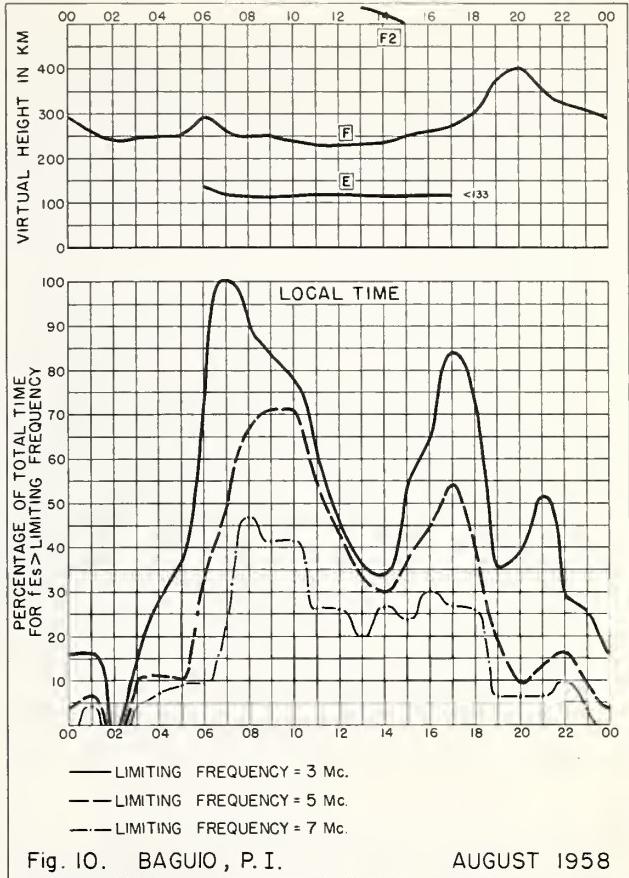


Fig. 10. BAGUIO, P.I. AUGUST 1958

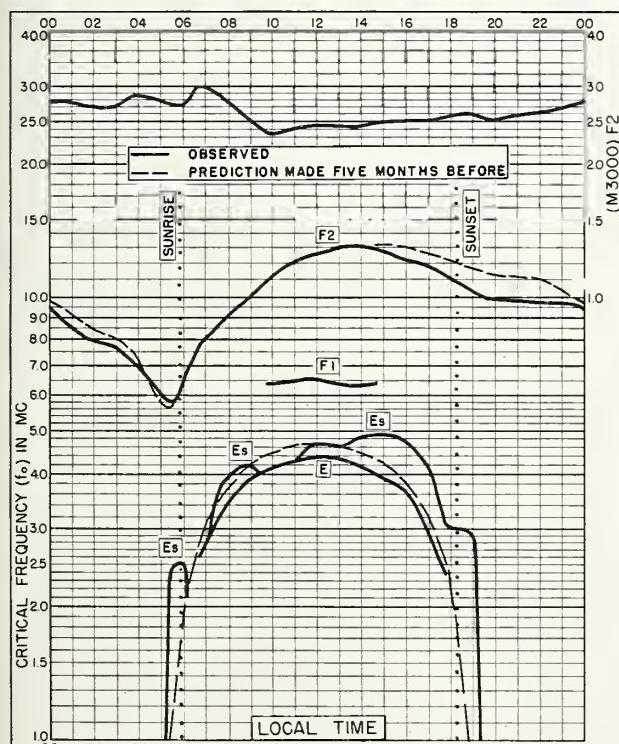


Fig. 11. PANAMA CANAL ZONE  
9.4°N, 79.9°W AUGUST 1958

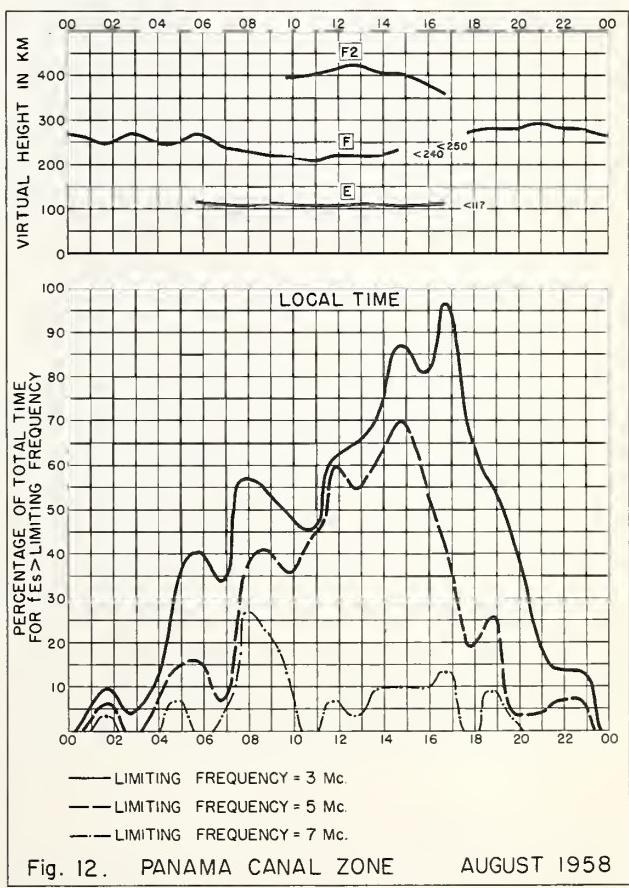
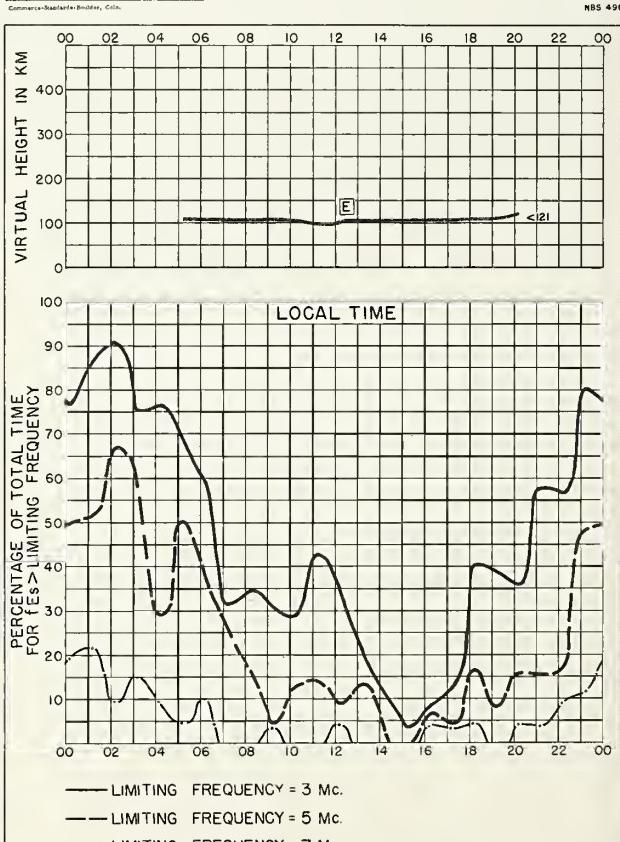
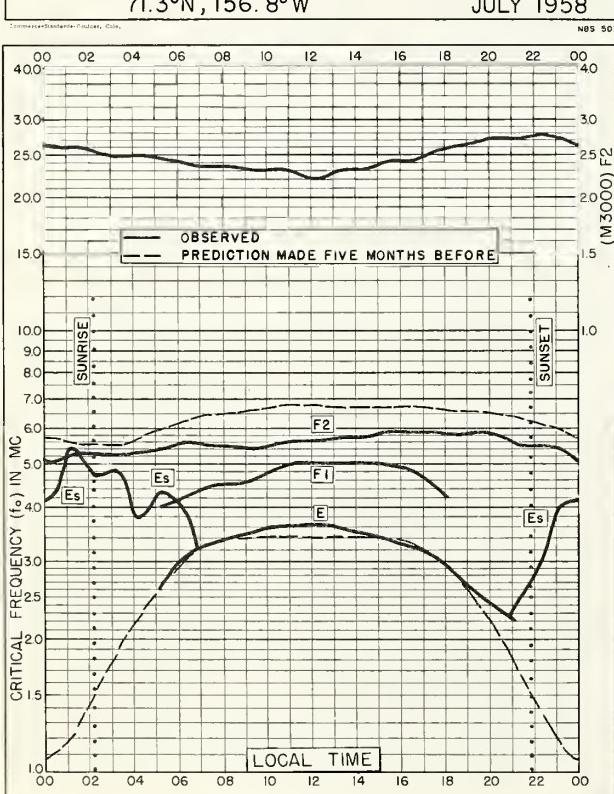
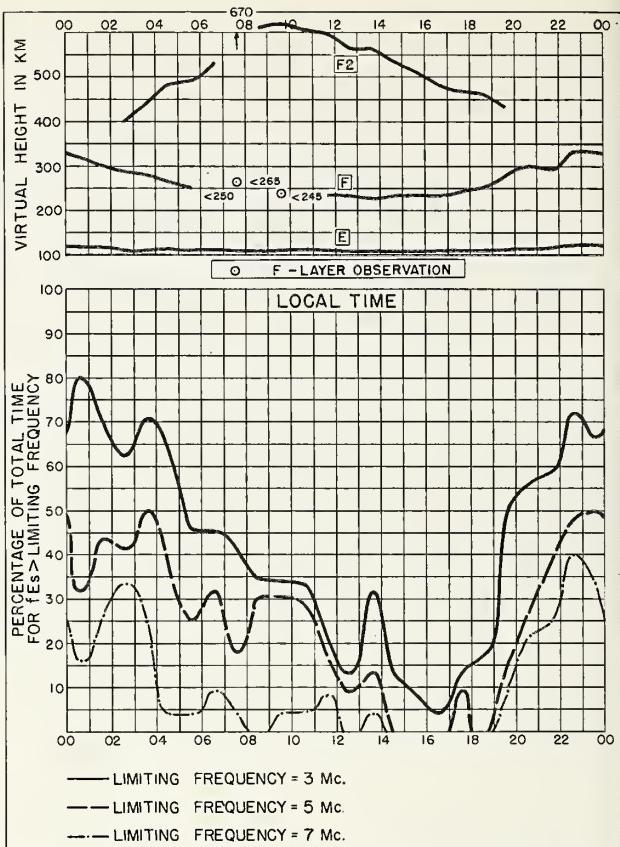
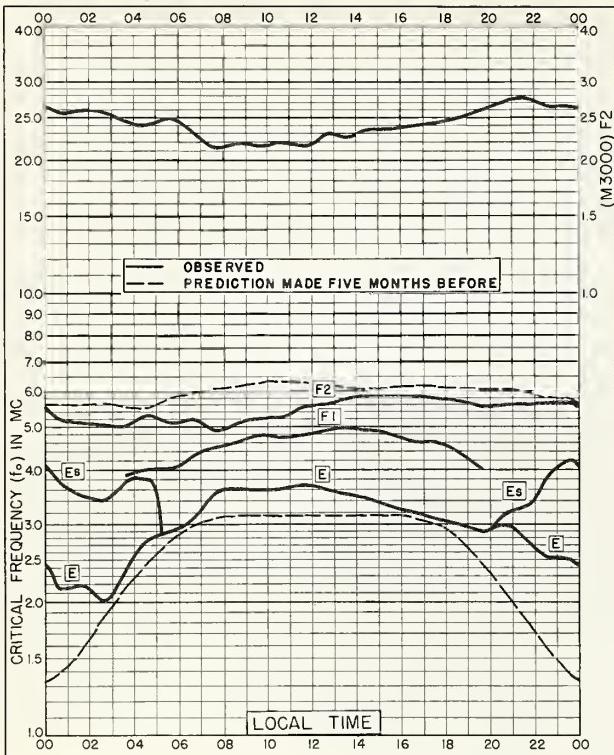
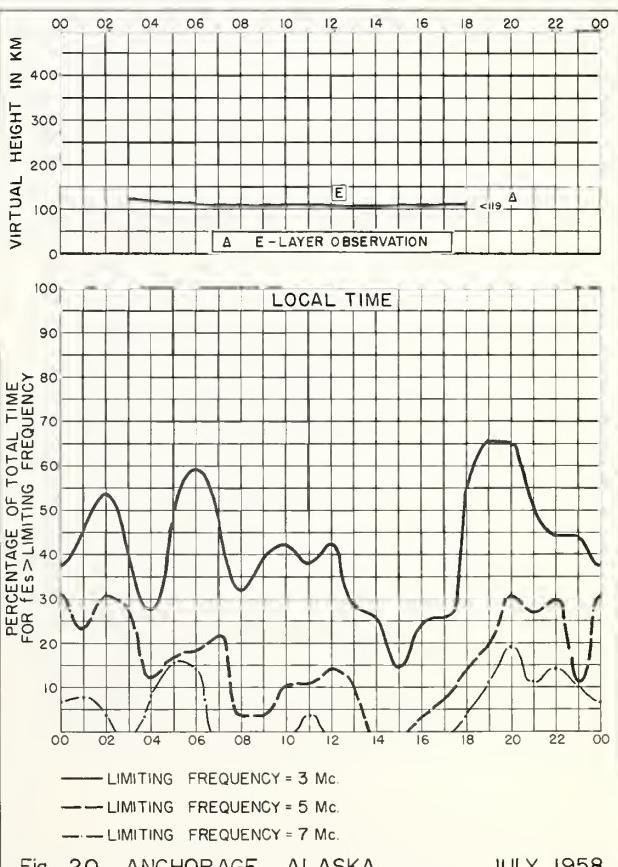
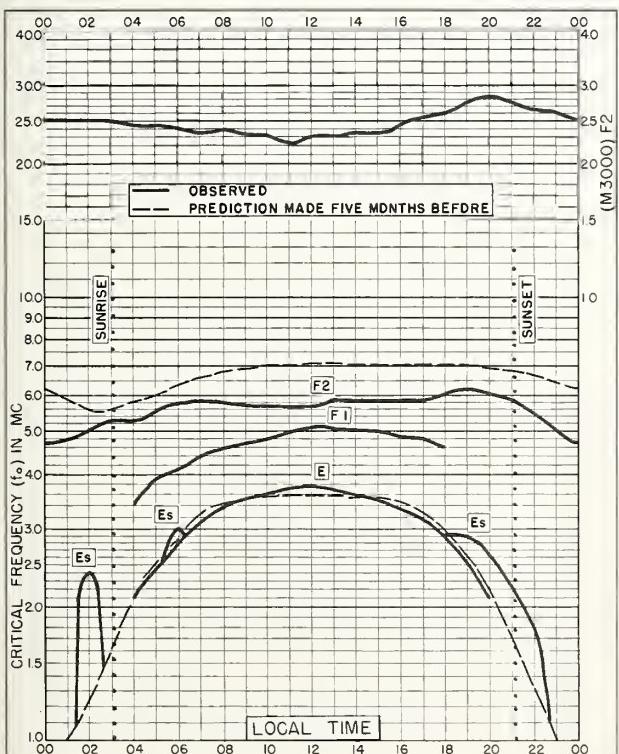
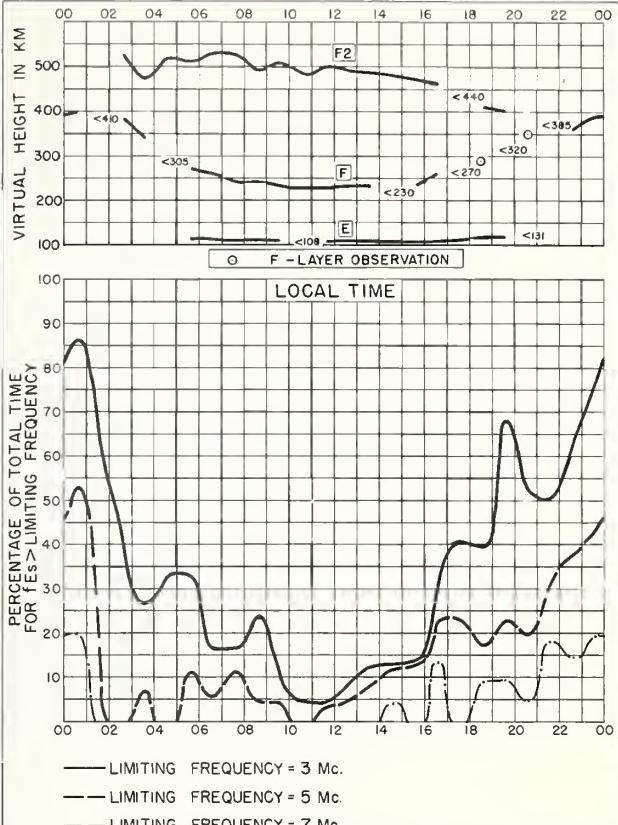
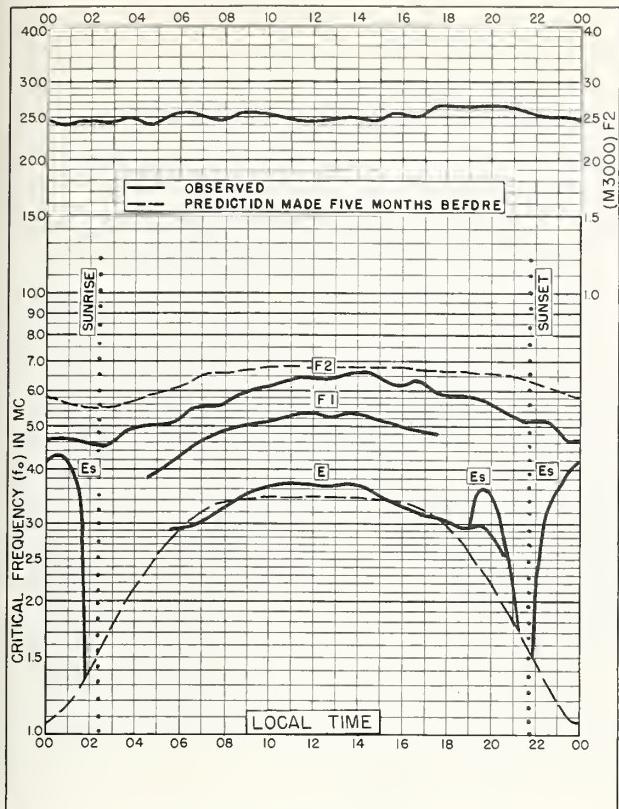
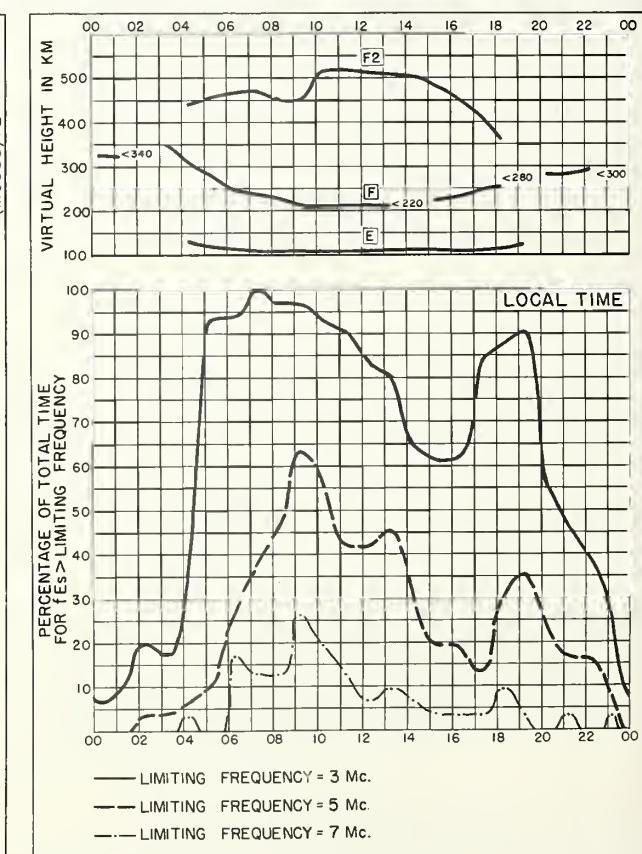
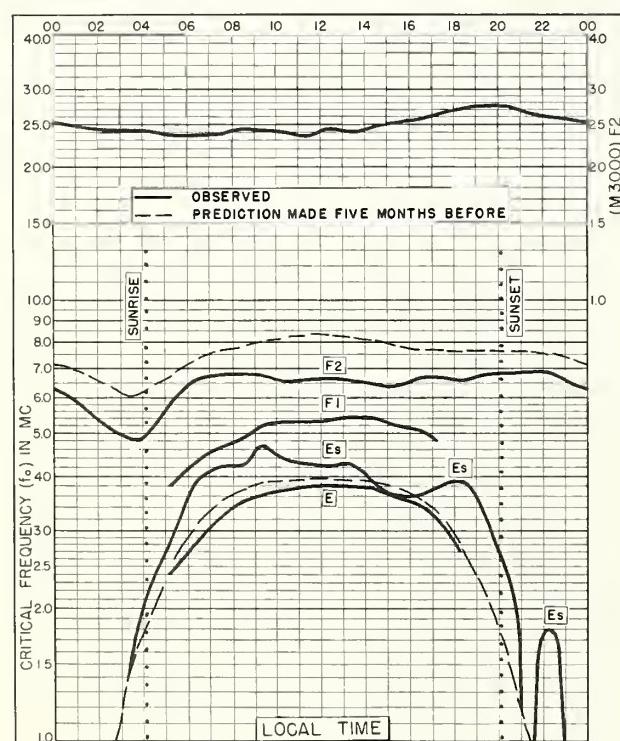
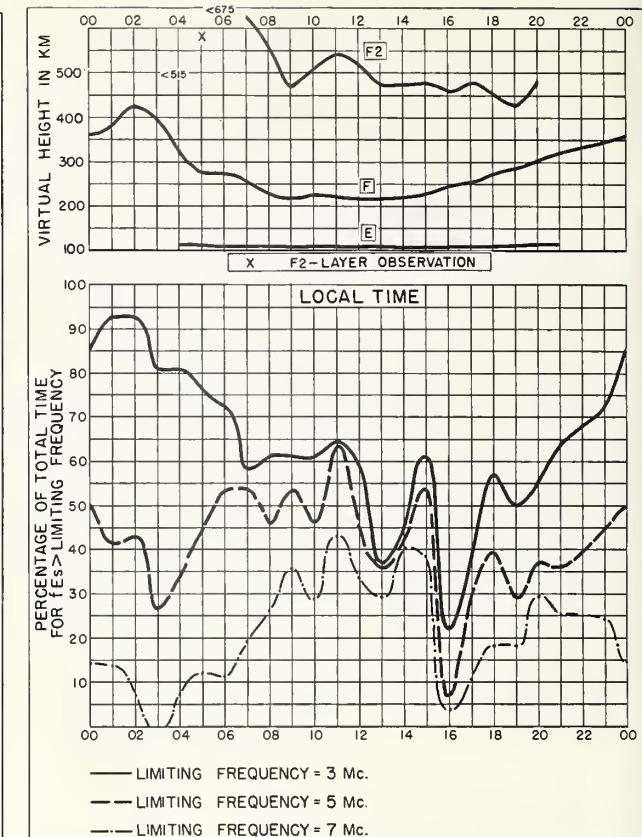
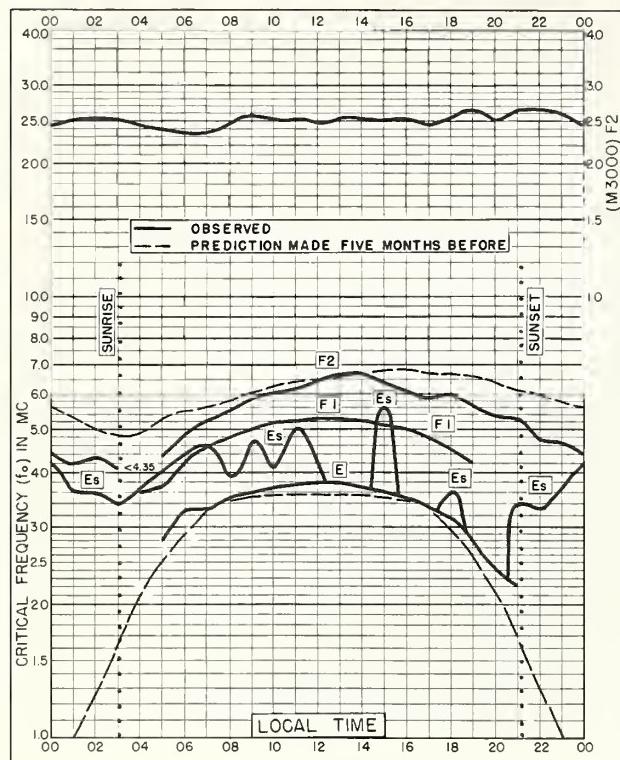


Fig. 12. PANAMA CANAL ZONE AUGUST 1958







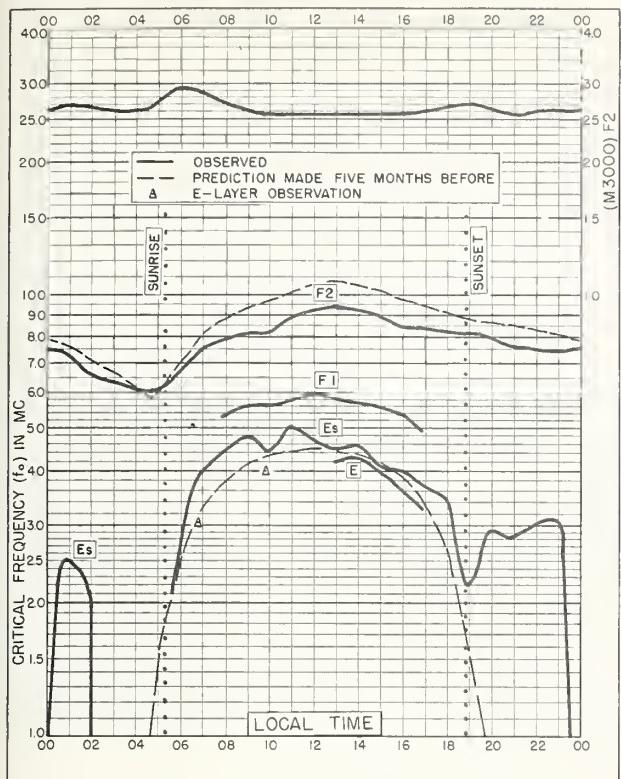


Fig. 25. GRAND BAHAMA I.

26.6°N, 78.2°W

JULY 1958

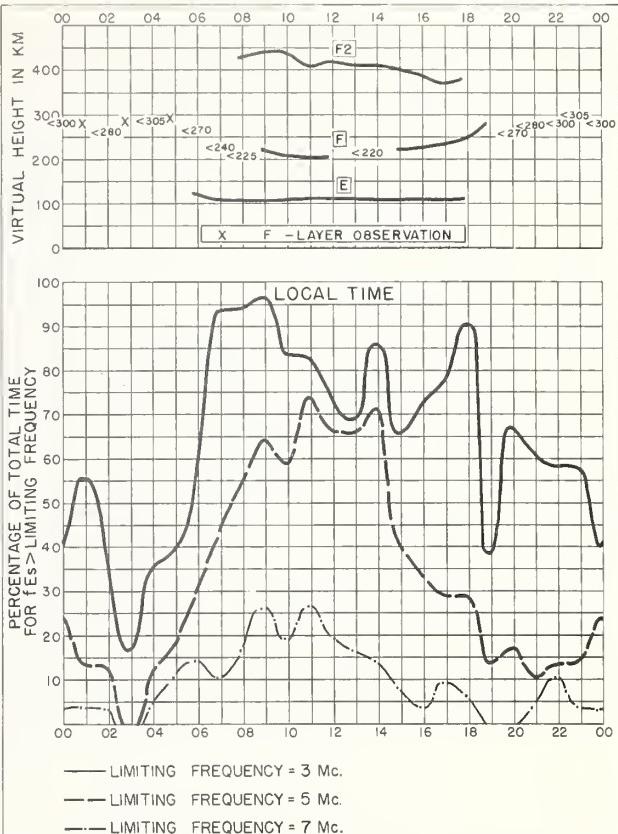


Fig. 26. GRAND BAHAMA I.

JULY 1958

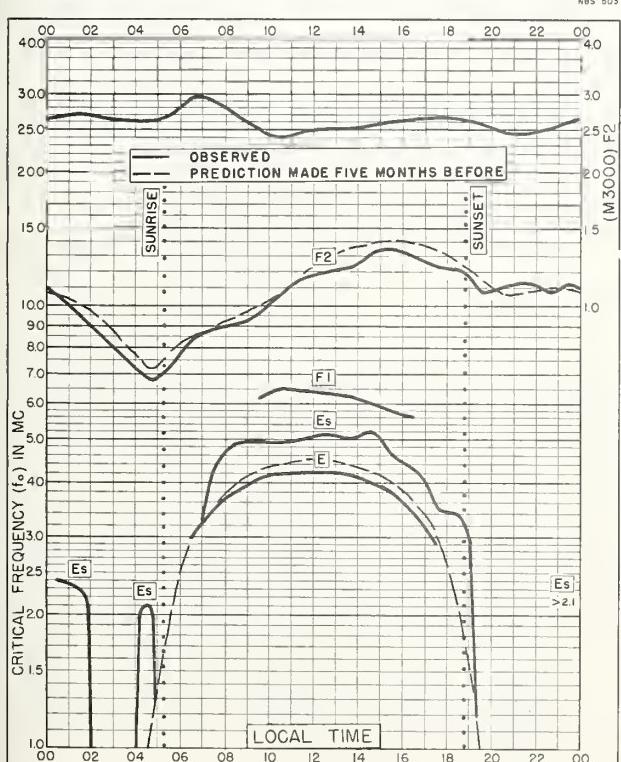


Fig. 27. OKINAWA I.

26.3°N, 127.8°E

JULY 1958

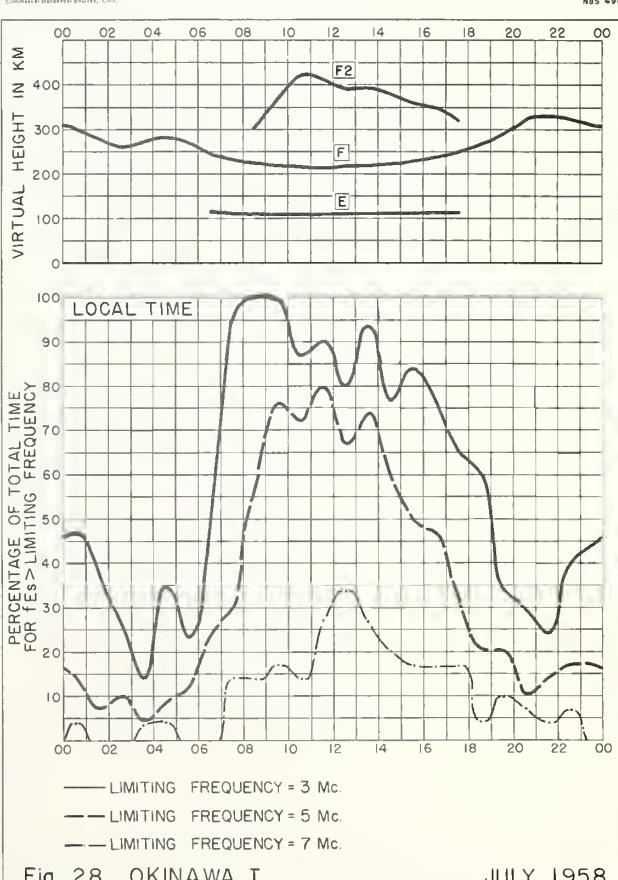


Fig. 28. OKINAWA I.

JULY 1958

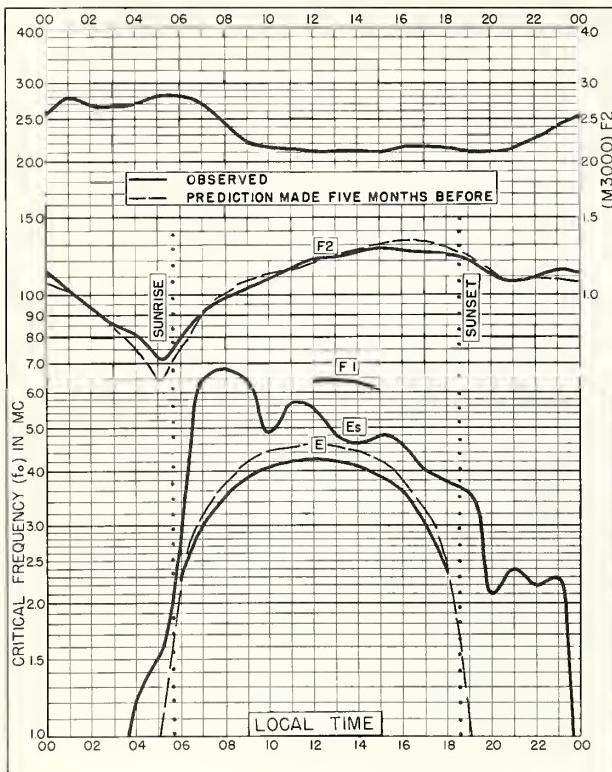


Fig. 29. BAGUIO, P.I.

16.4°N, 120.6°E

JULY 1958

NBS 503

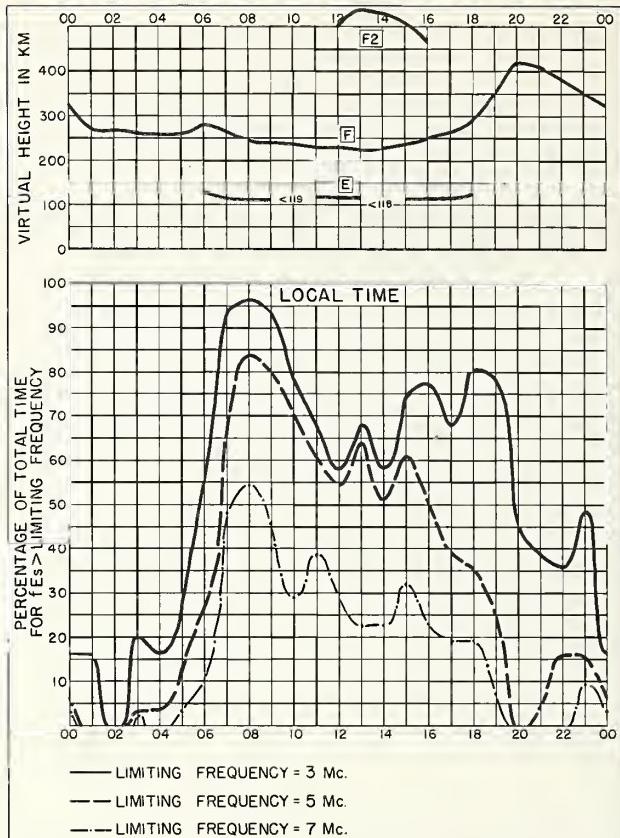


Fig. 30. BAGUIO, P.I.

JULY 1958

NBS 490

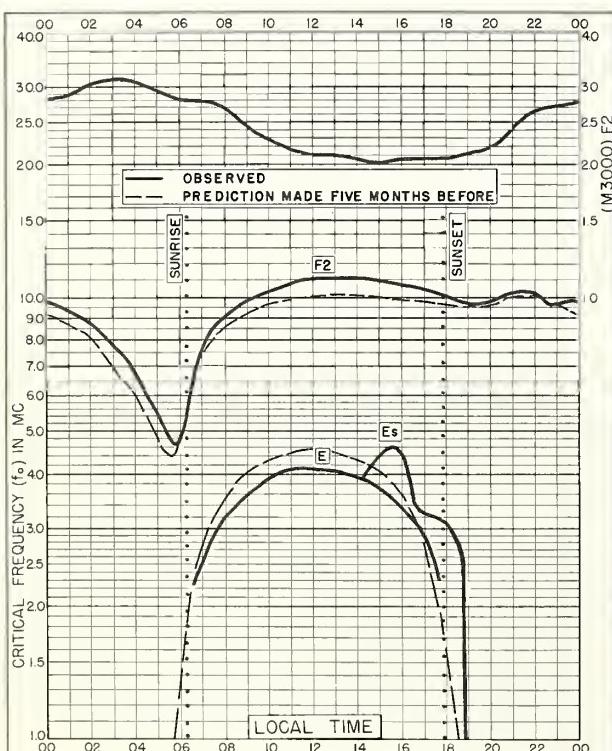


Fig. 31. TALARA, PERU

4.6°S, 81.3°W

JULY 1958

NBS 503

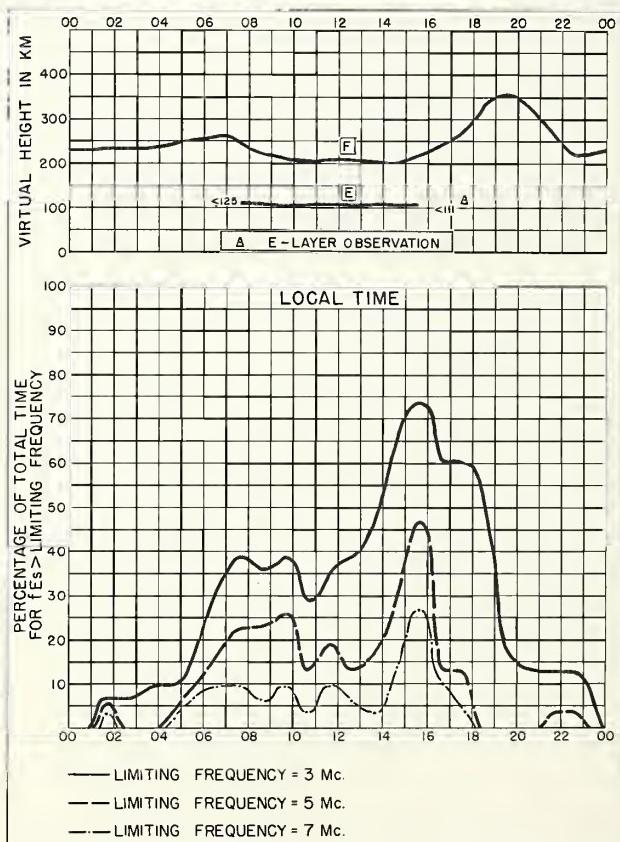
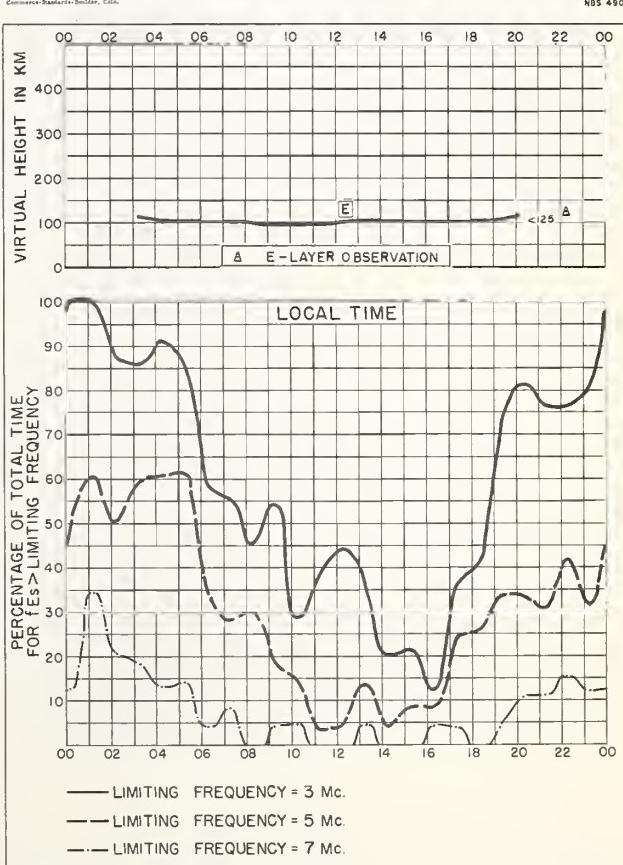
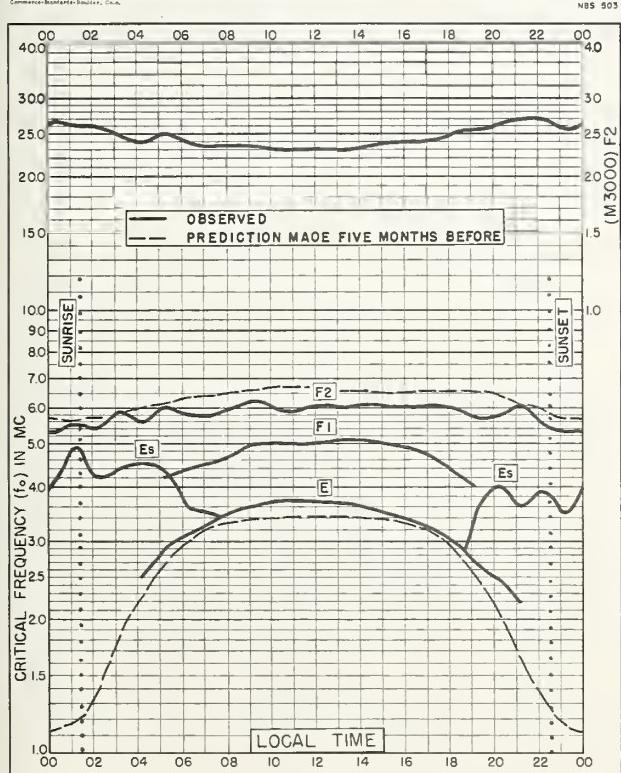
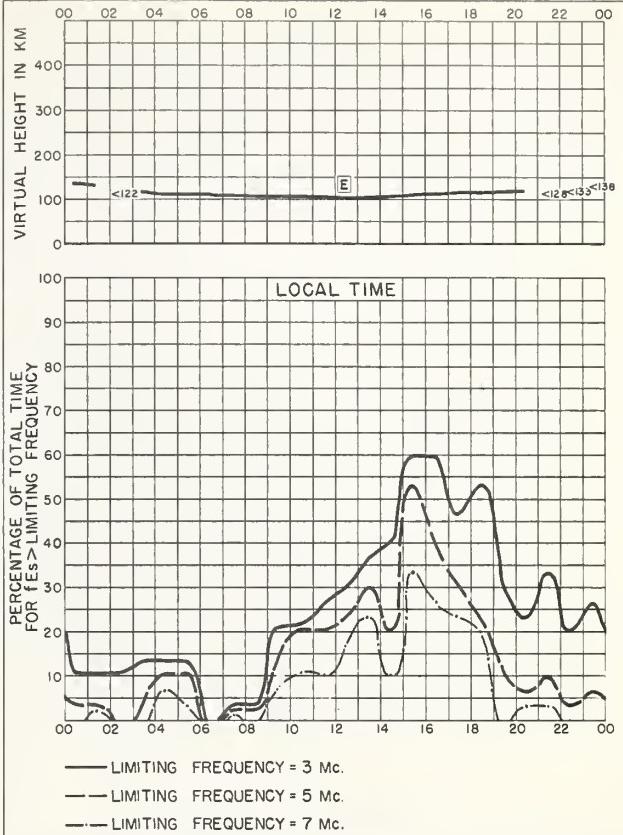
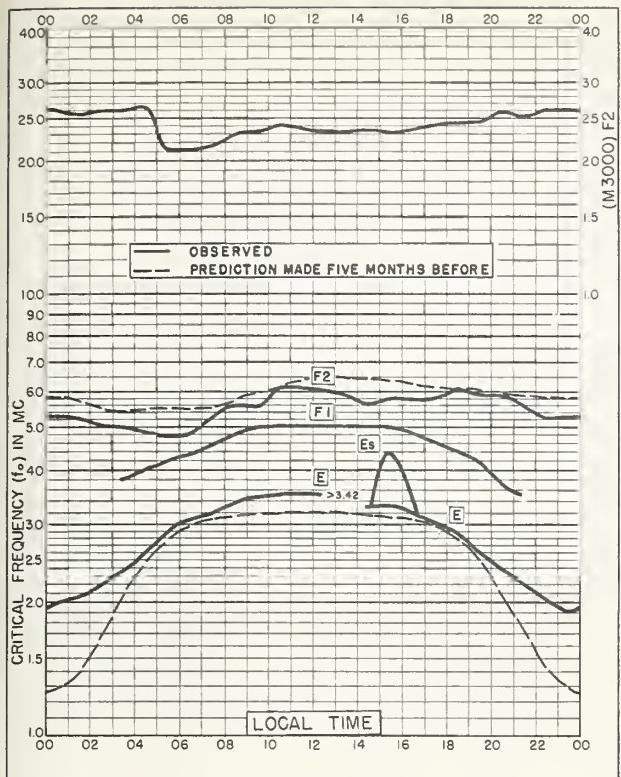


Fig. 32. TALARA, PERU

JULY 1958

NBS 490



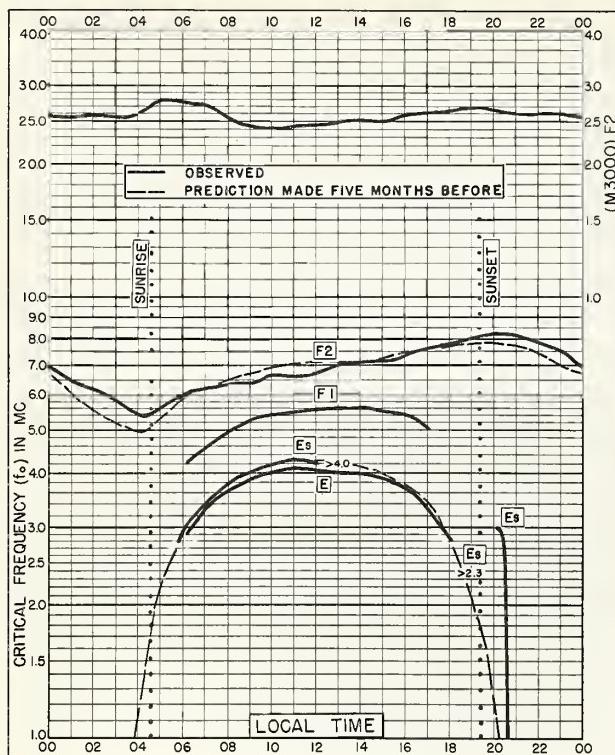


Fig. 37. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W JUNE 1958

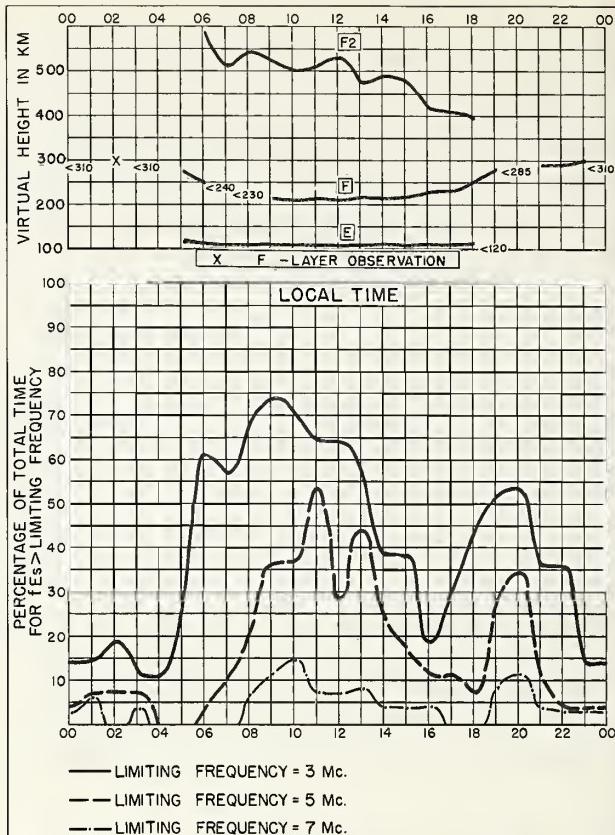


Fig. 38. FT. MONMOUTH, NEW JERSEY JUNE 1958

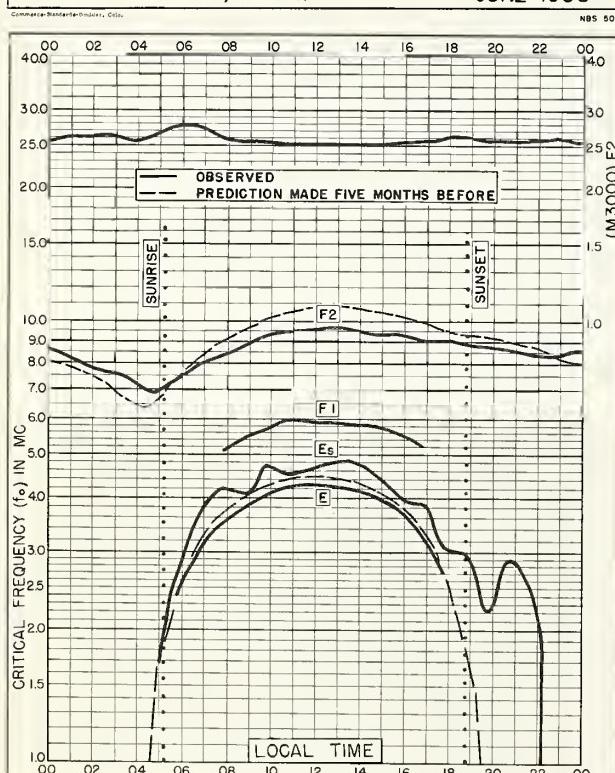


Fig. 39. GRAND BAHAMA I.  
26.6°N, 78.2°W JUNE 1958

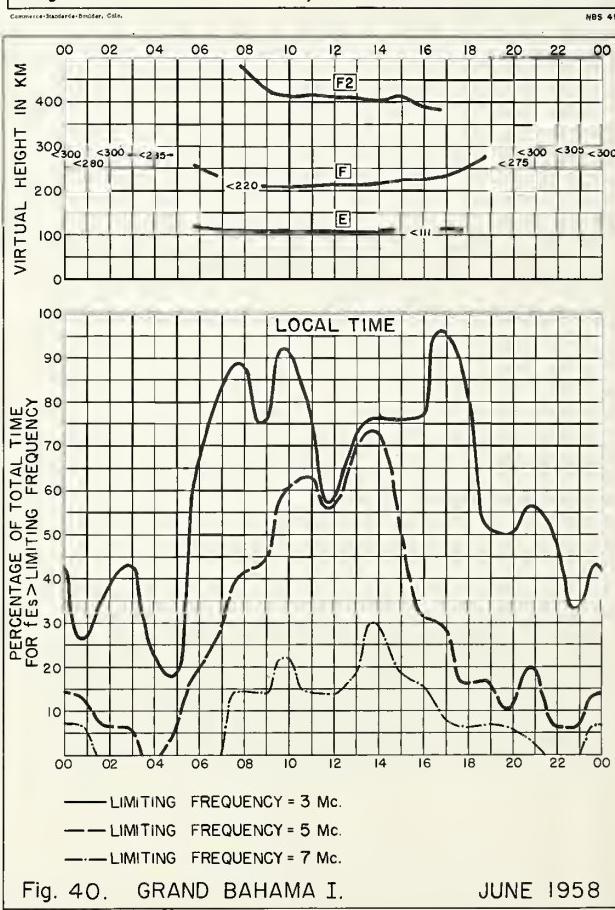
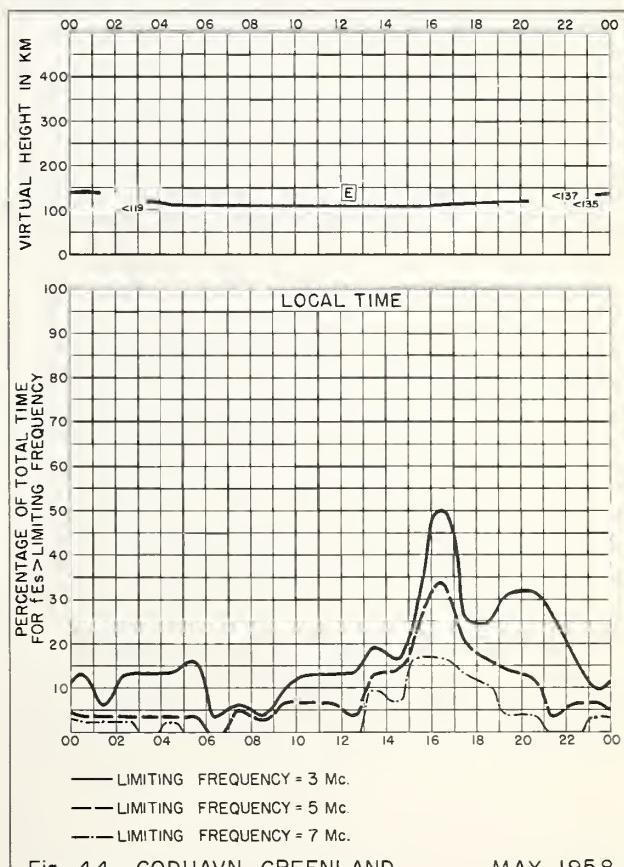
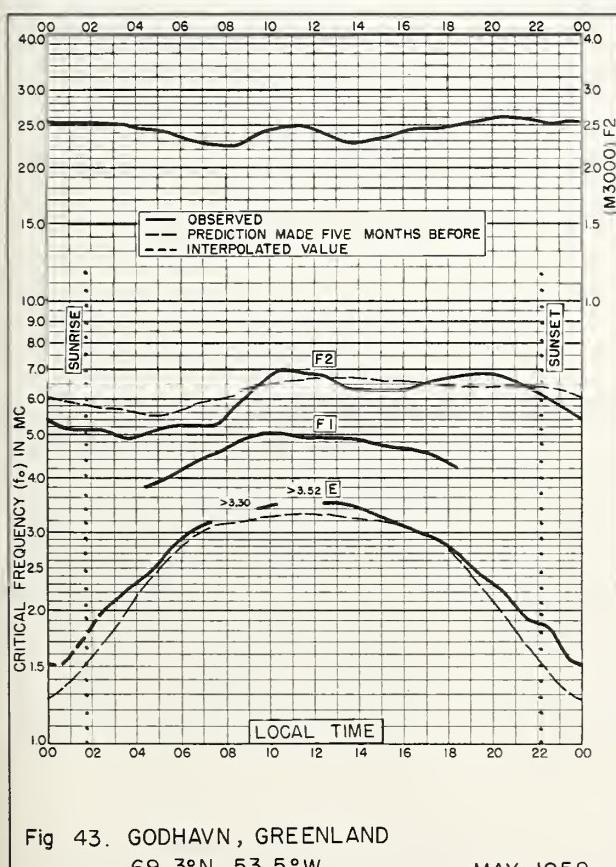
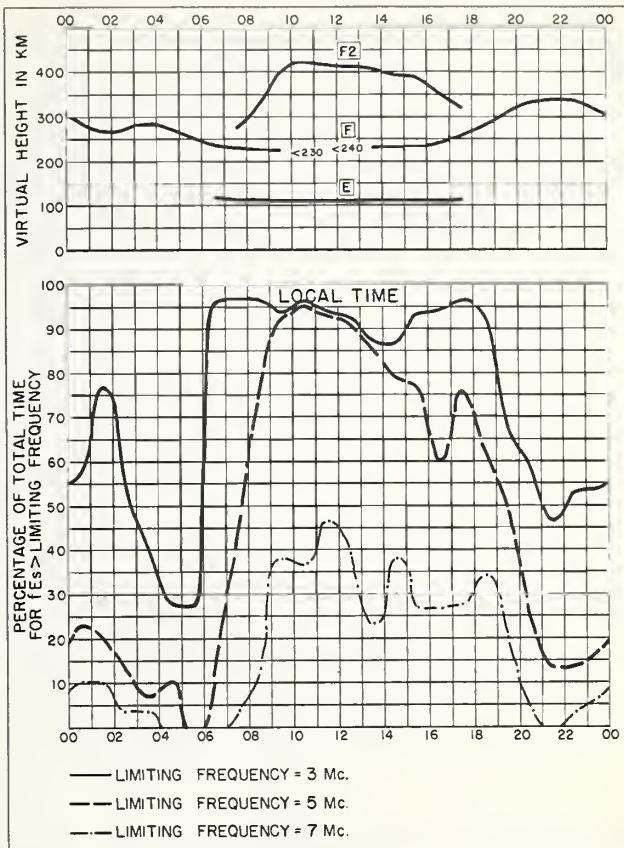
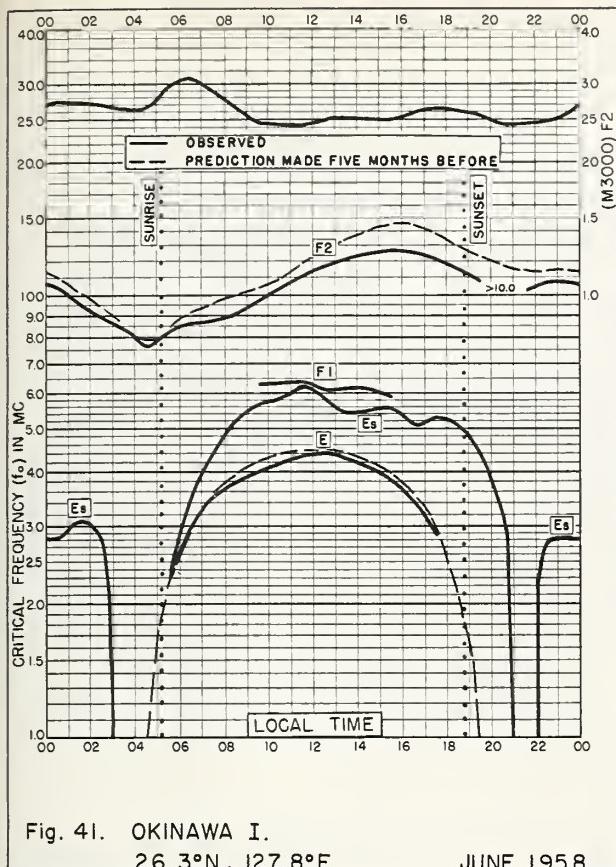
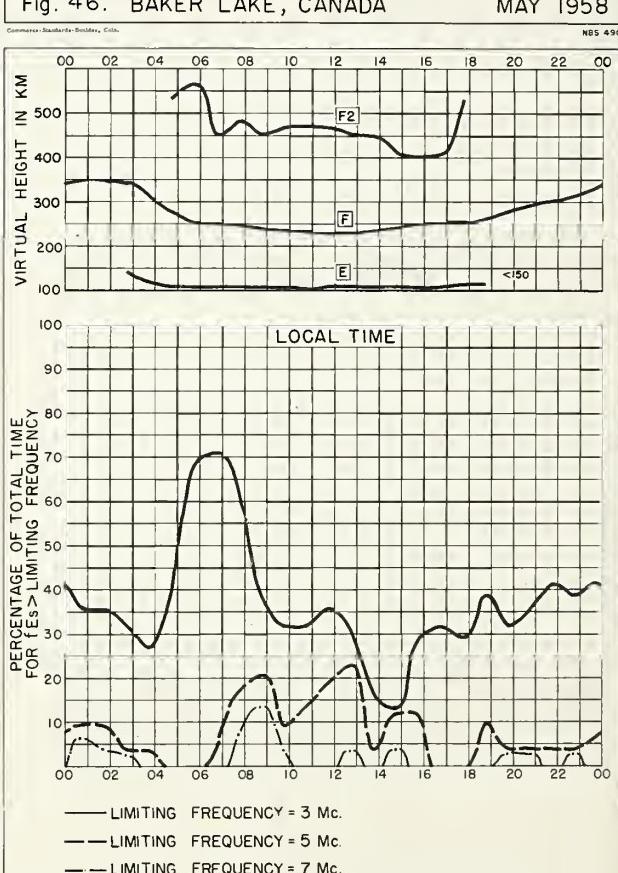
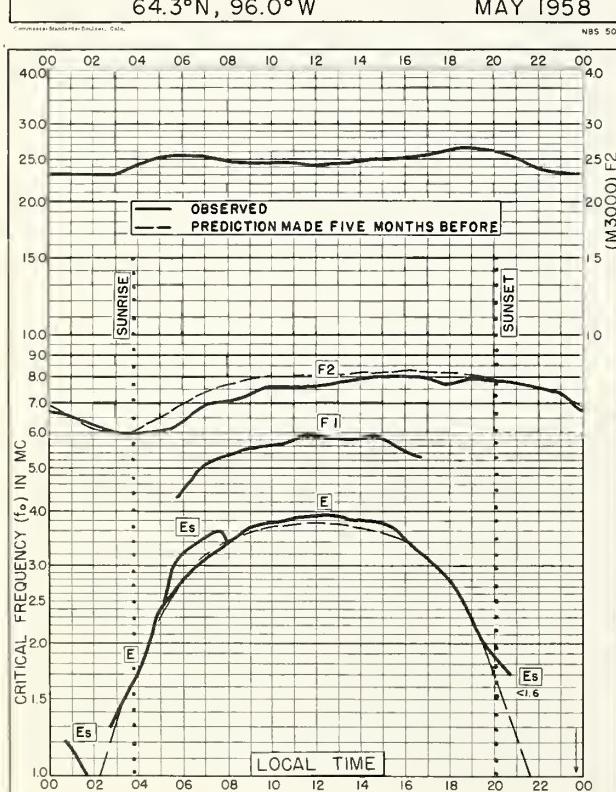
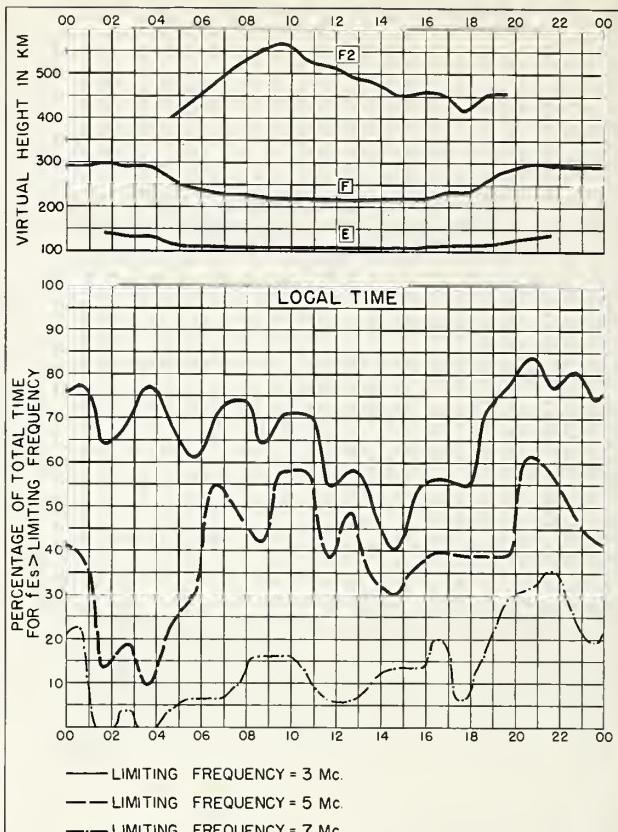
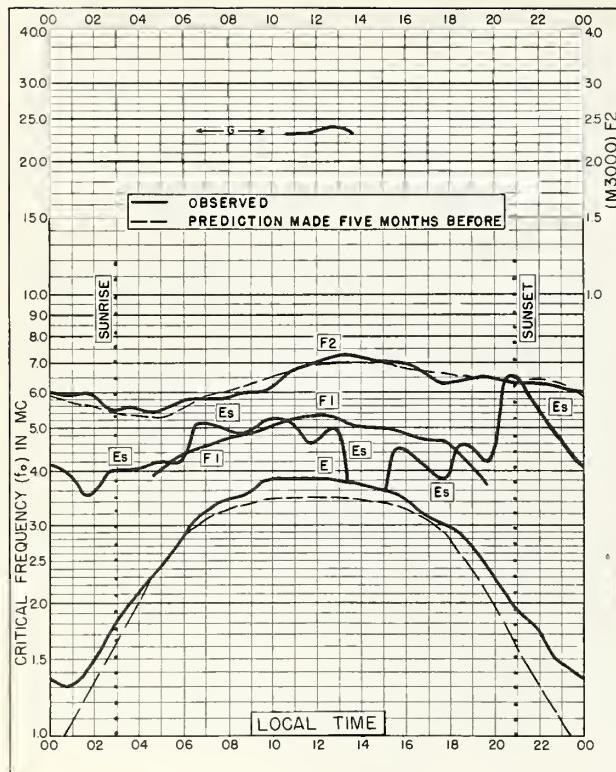


Fig. 40. GRAND BAHAMA I. JUNE 1958





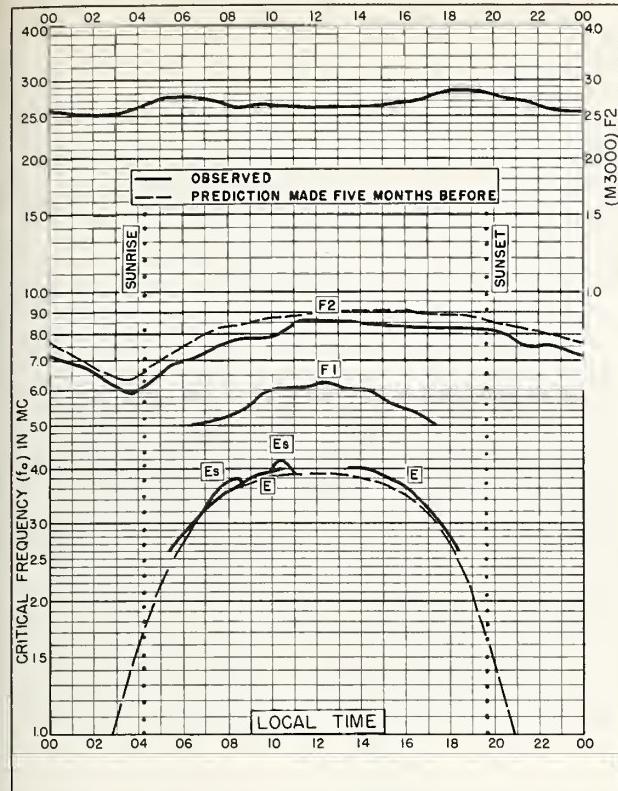


Fig. 49. De BILT, HOLLAND  
52.1°N, 5.2°E MAY 1958

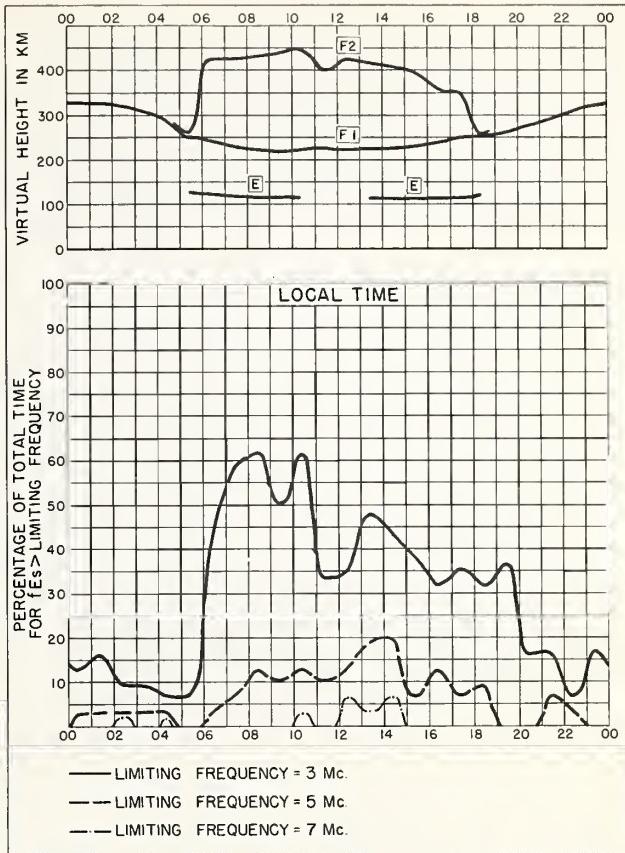


Fig. 50. De BILT, HOLLAND MAY 1958

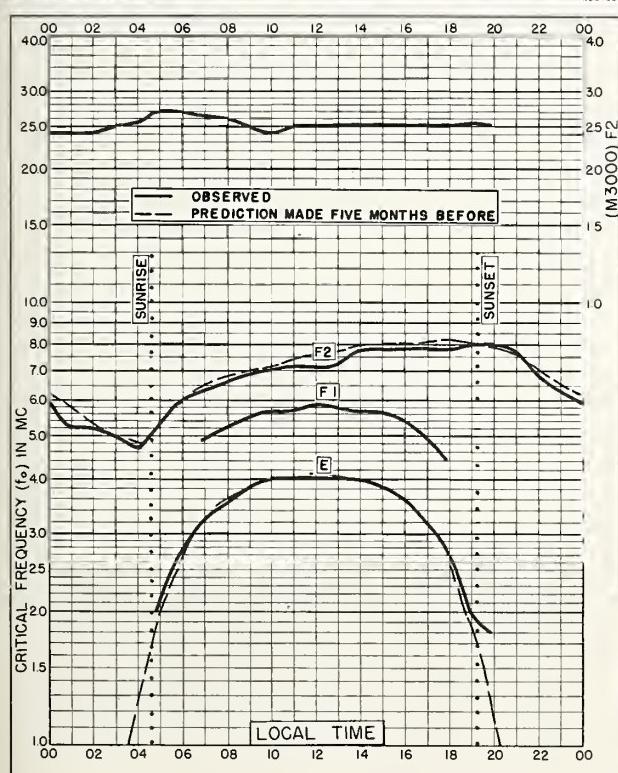


Fig. 51. OTTAWA, CANADA  
45.4°N, 75.9°W MAY 1958

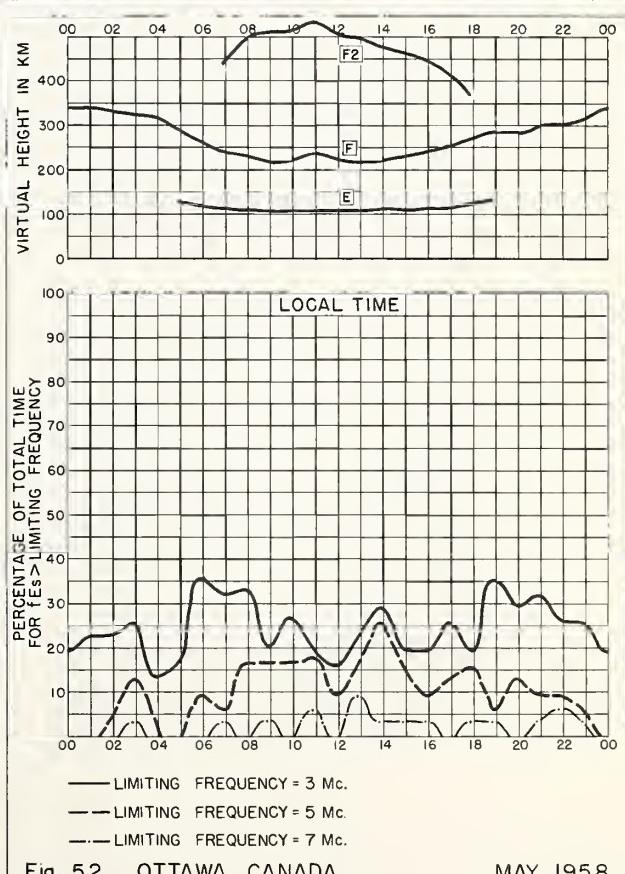


Fig. 52. OTTAWA, CANADA MAY 1958

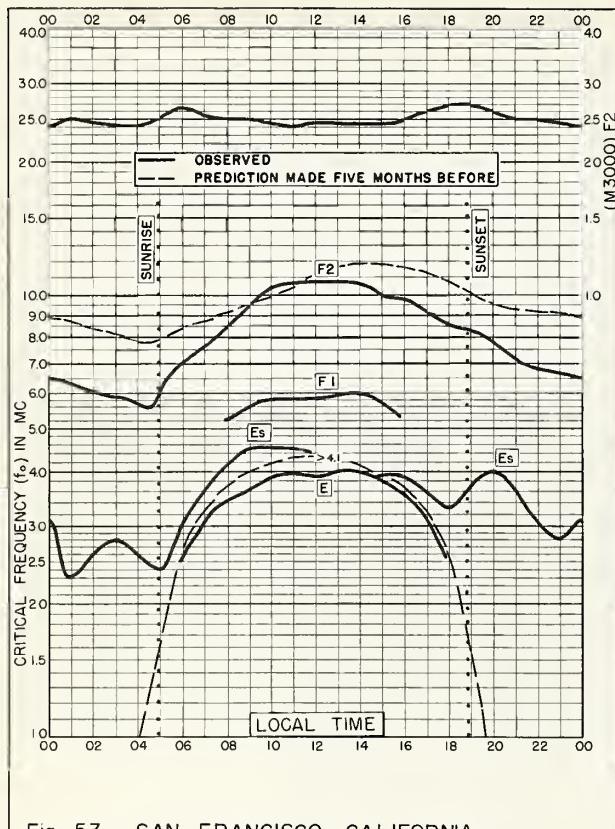


Fig. 53. SAN FRANCISCO, CALIFORNIA  
37.4°N, 122.2°W MAY 1958

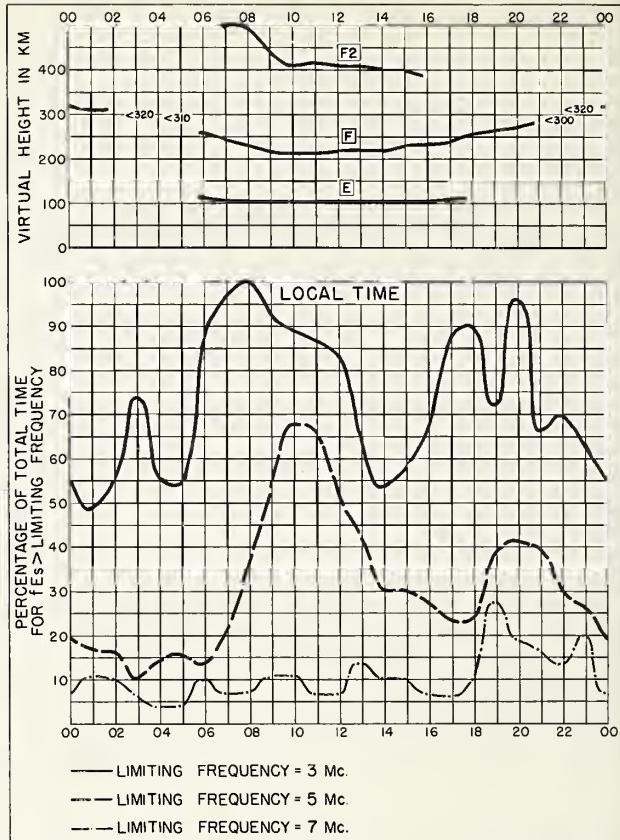


Fig. 54. SAN FRANCISCO, CALIFORNIA MAY 1958

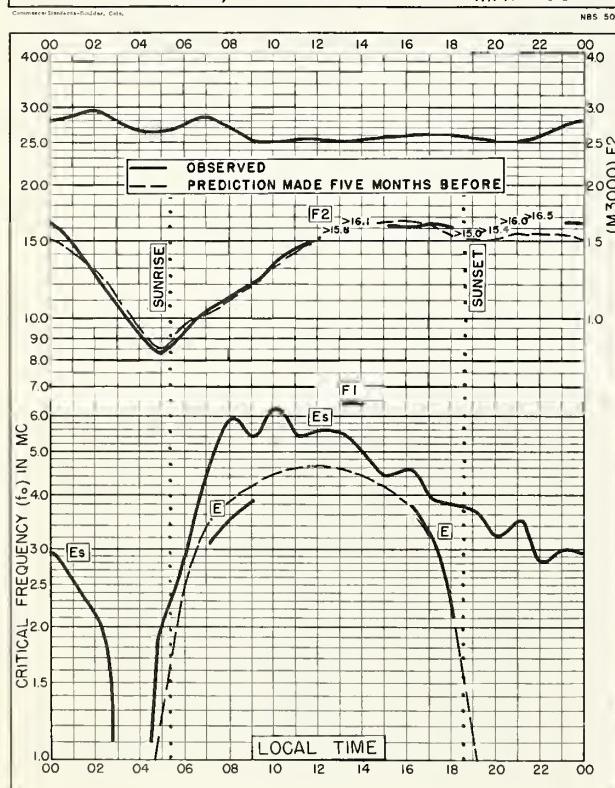


Fig. 55. FORMOSA, CHINA  
25.0°N, 121.5°E MAY 1958

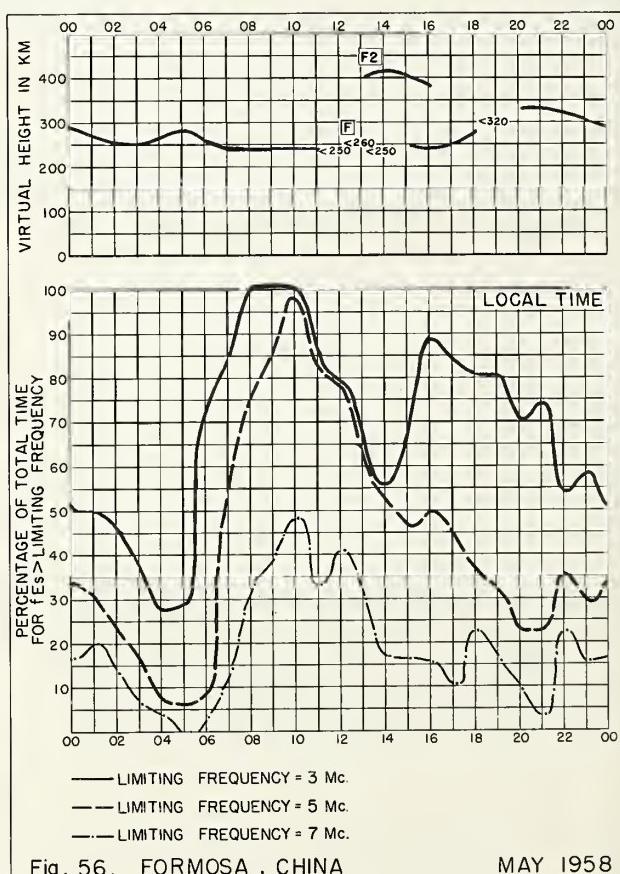
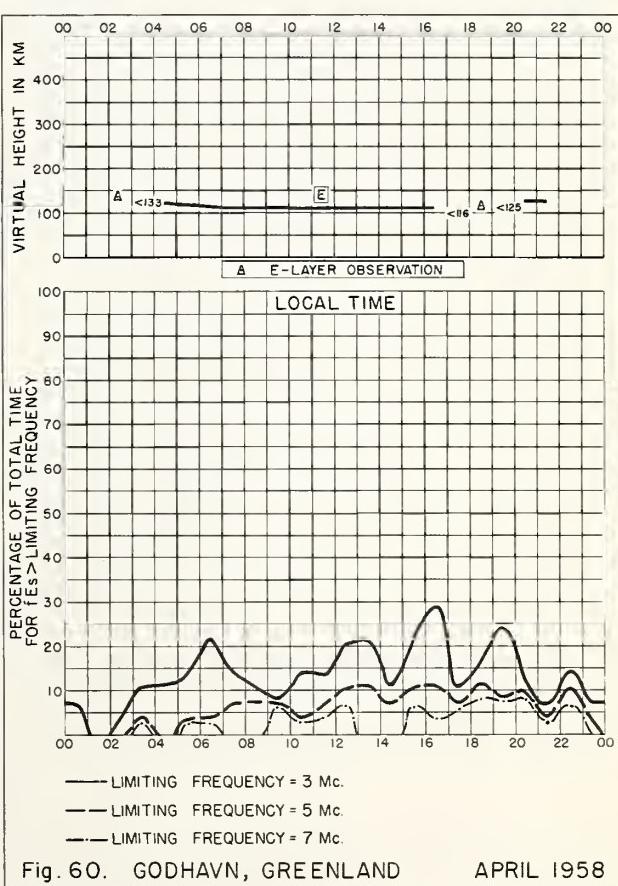
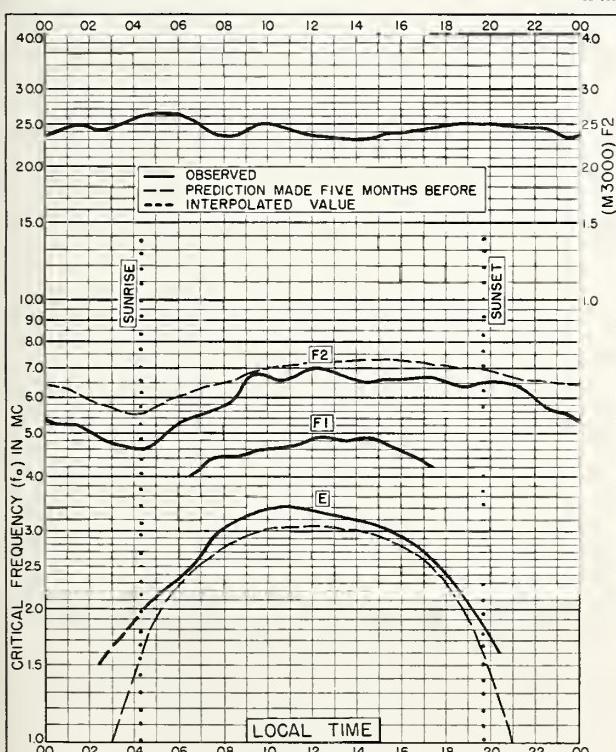
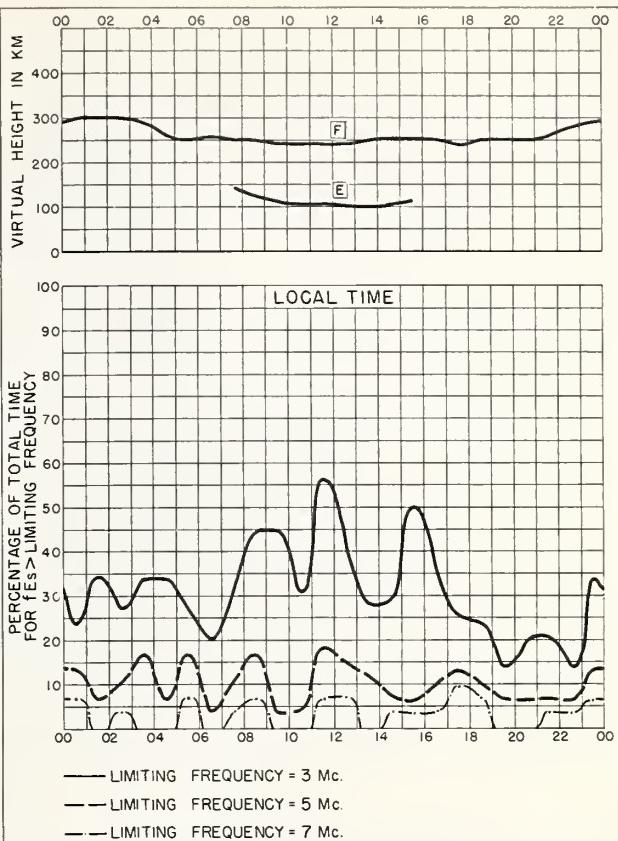
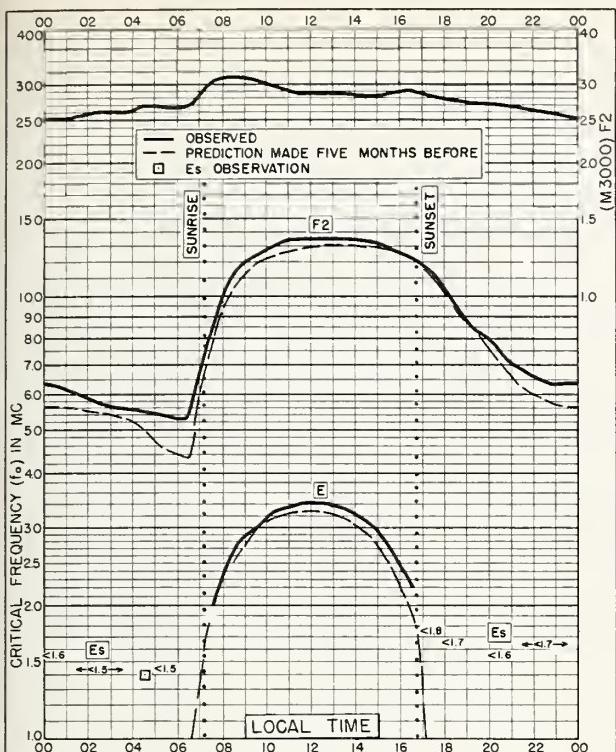
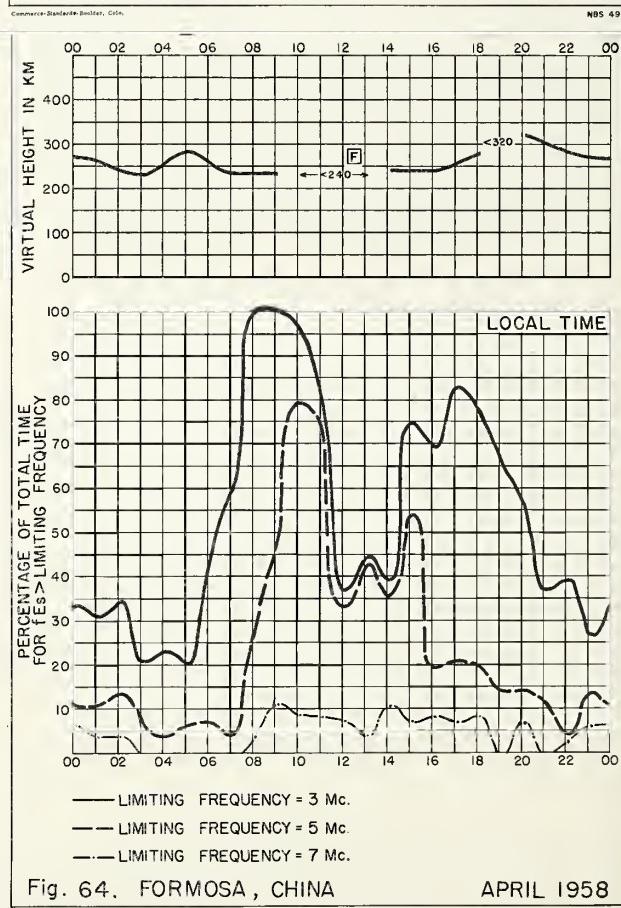
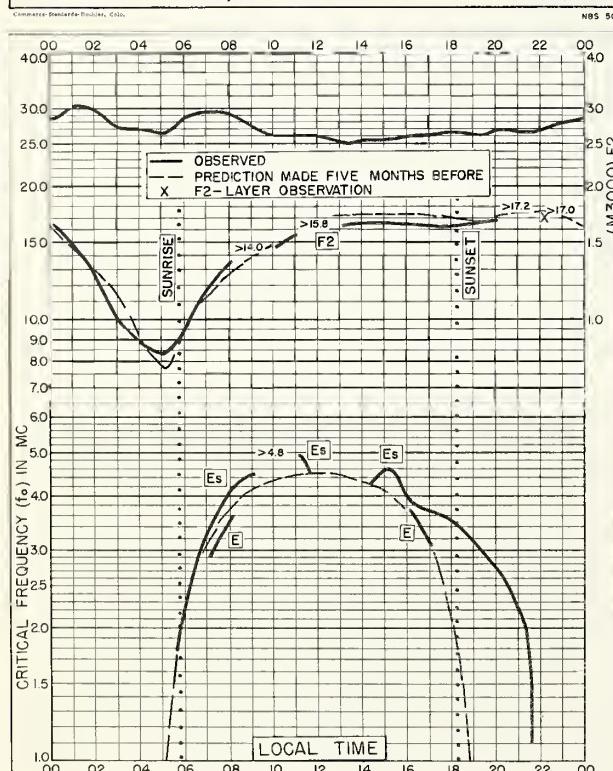
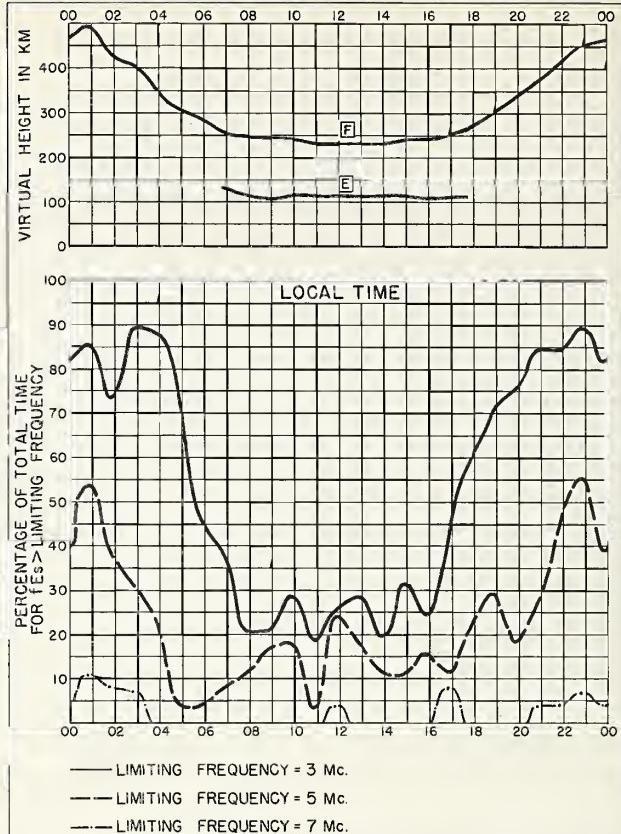
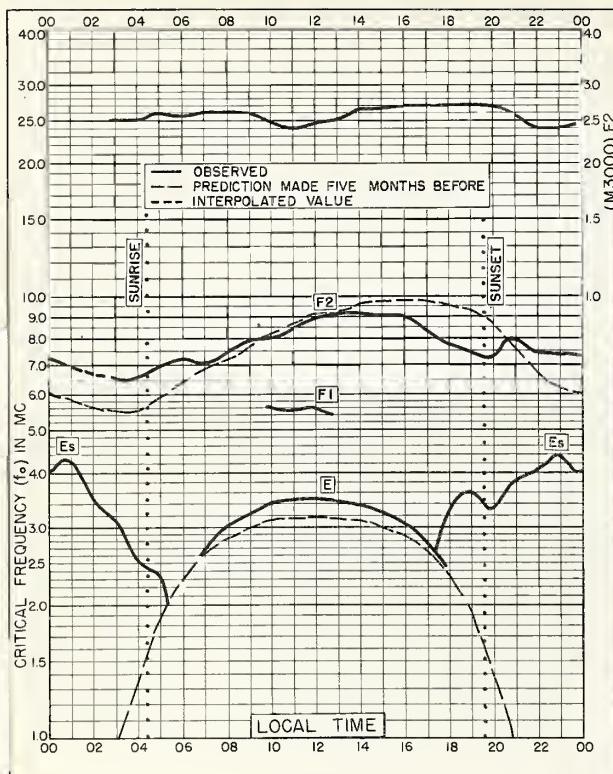
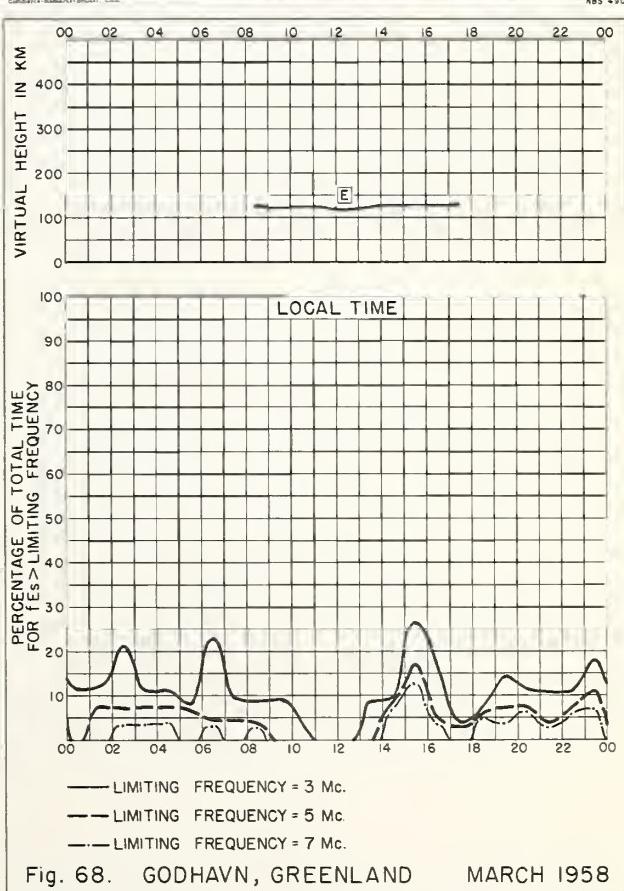
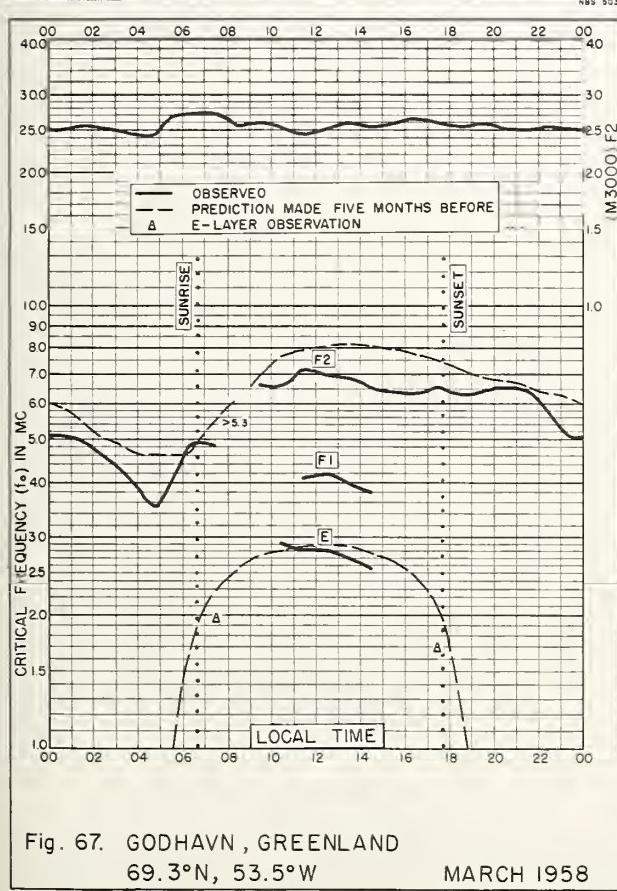
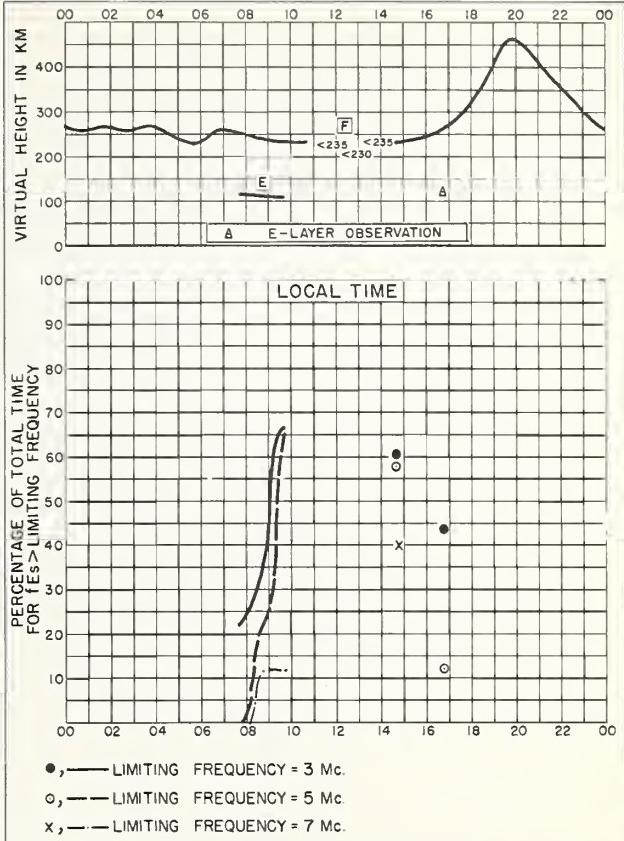
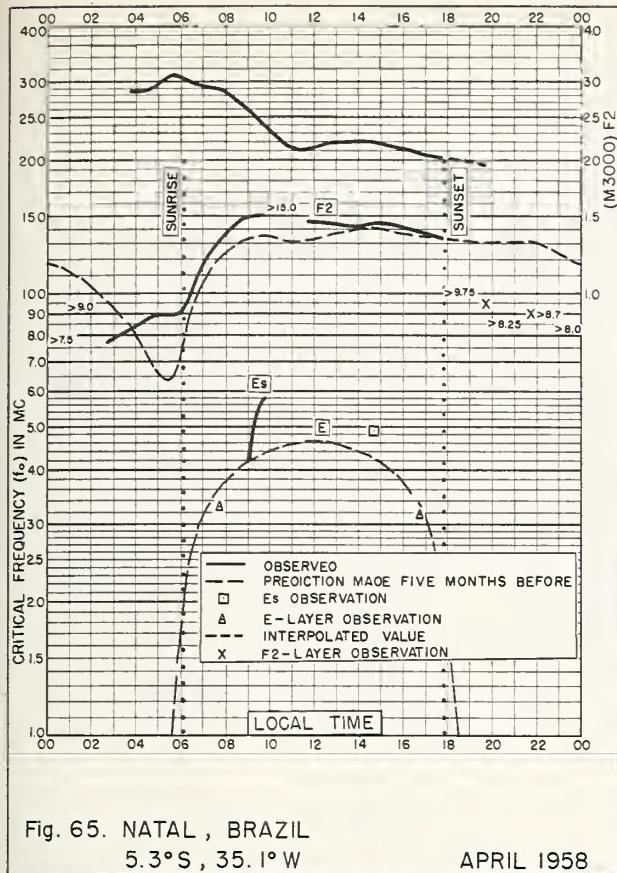


Fig. 56. FORMOSA, CHINA MAY 1958







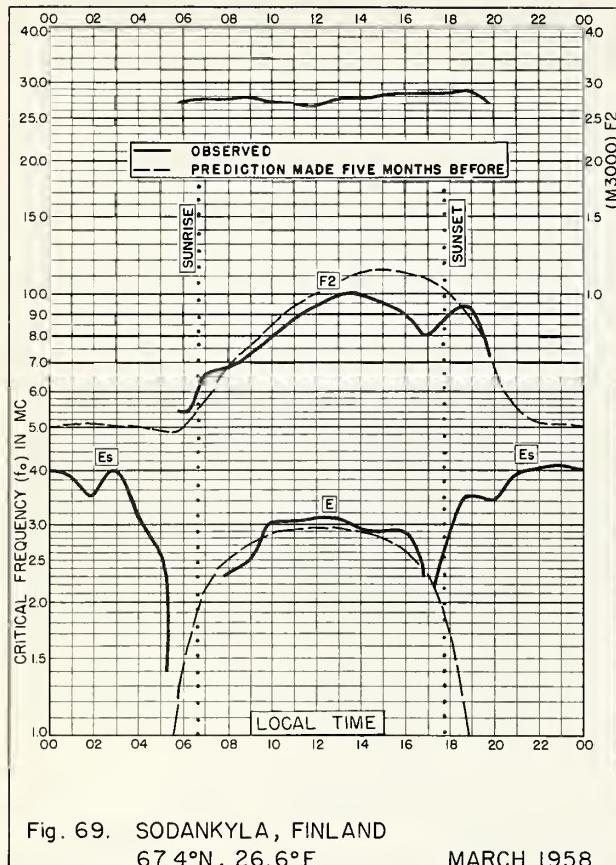


Fig. 69. SODANKYLA, FINLAND

67.4°N, 26.6°E

MARCH 1958

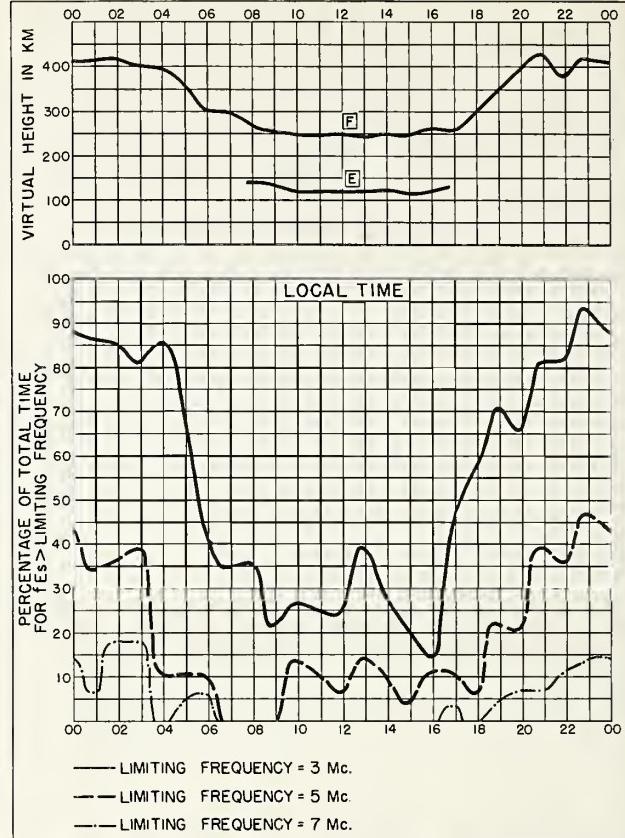


Fig. 70. SODANKYLA, FINLAND

MARCH 1958

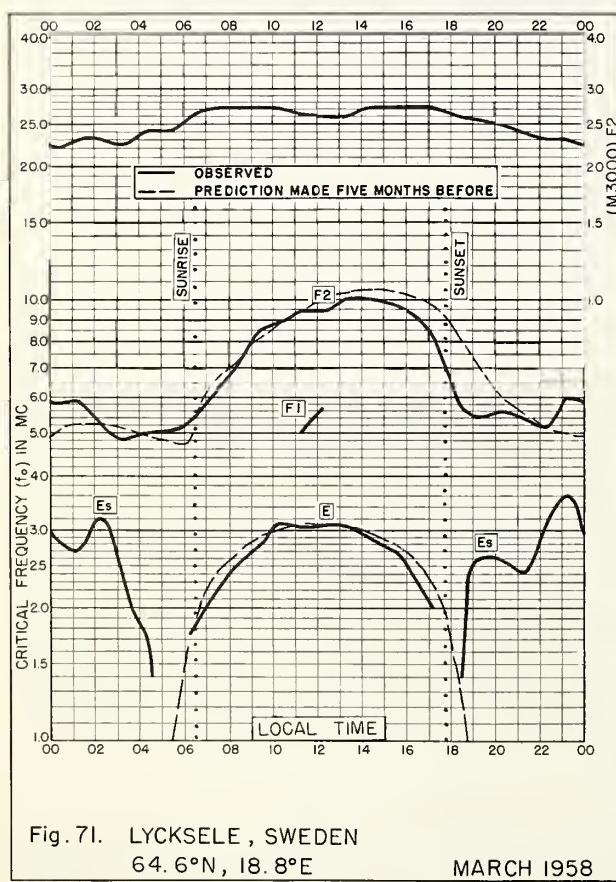


Fig. 71. LYCKSELE, SWEDEN

64.6°N, 18.8°E

MARCH 1958

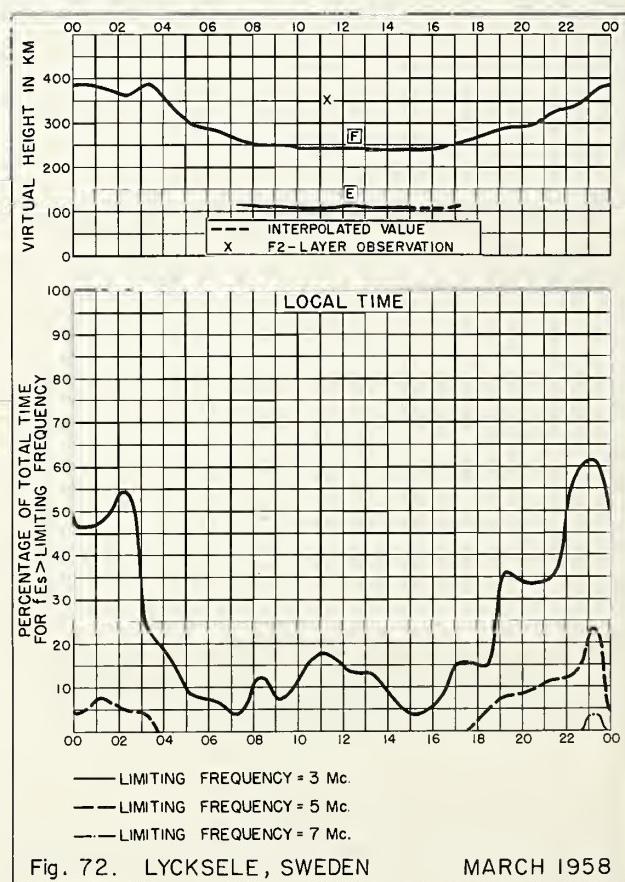
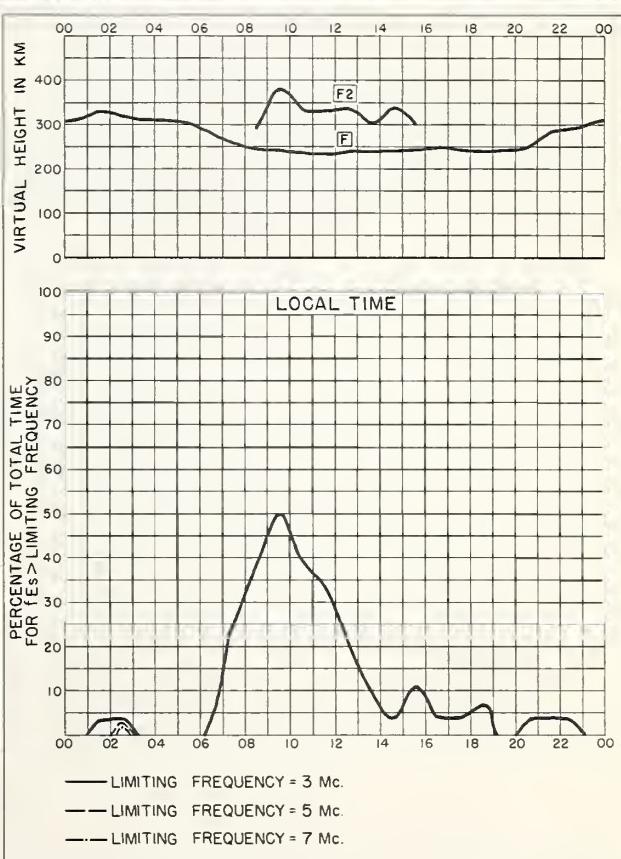
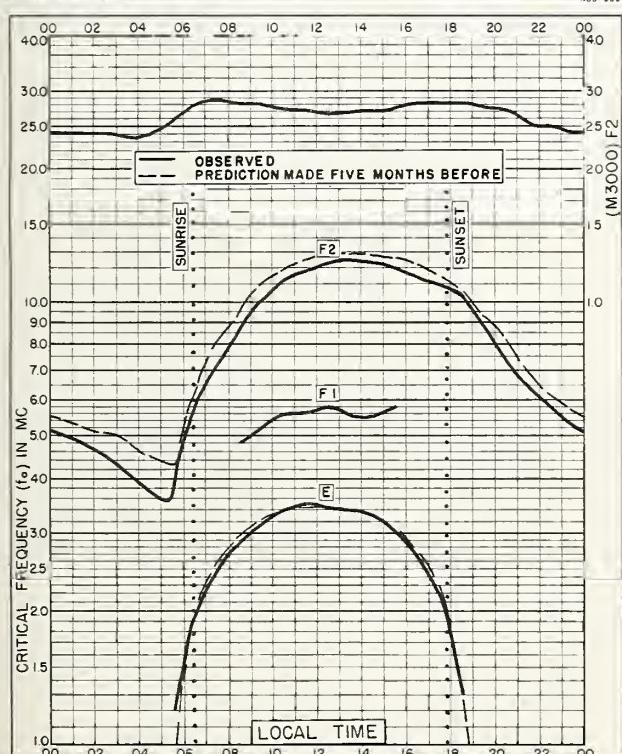
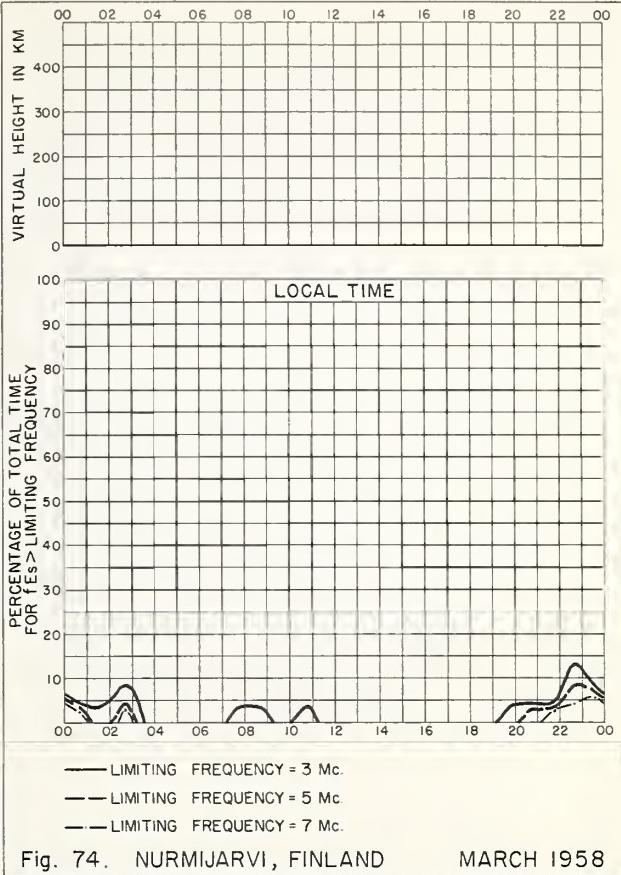
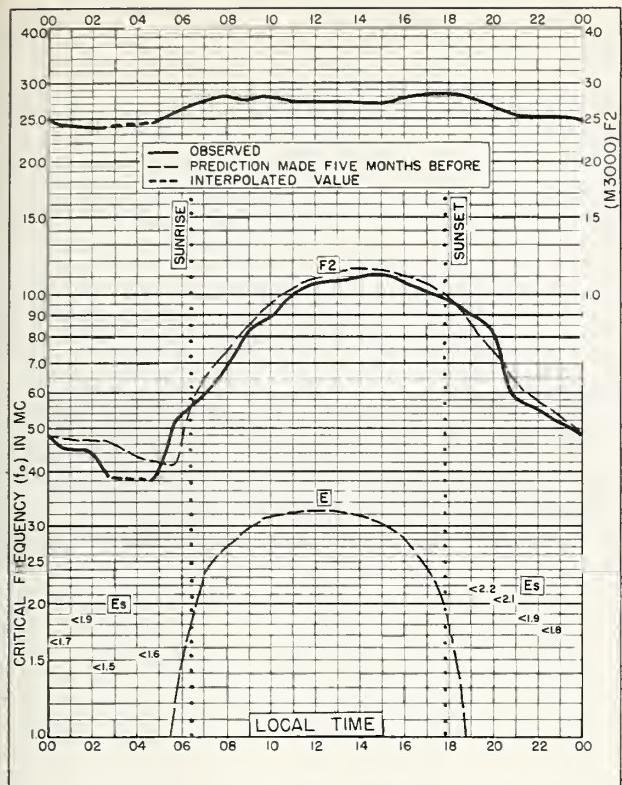
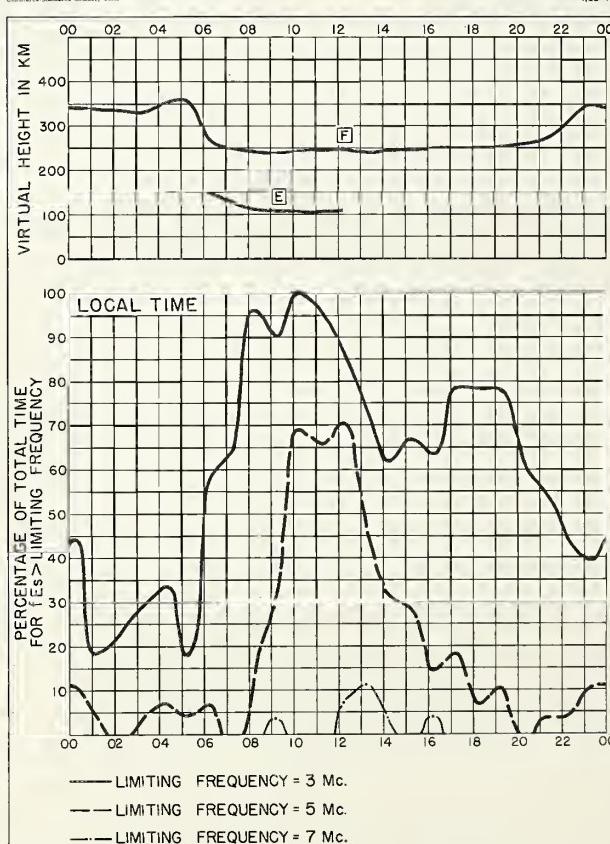
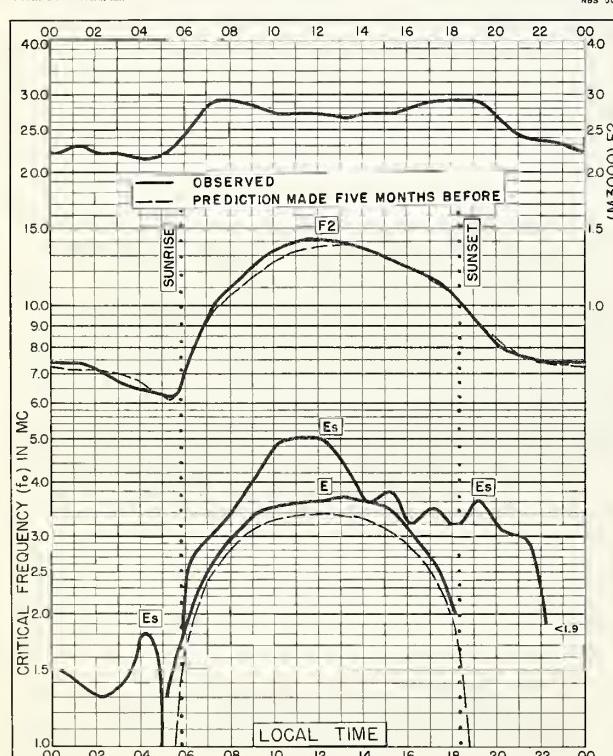
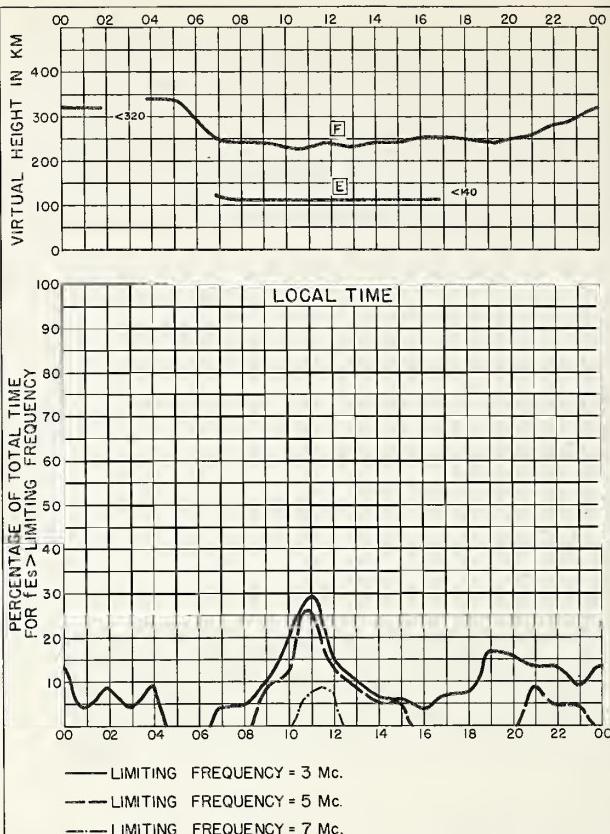
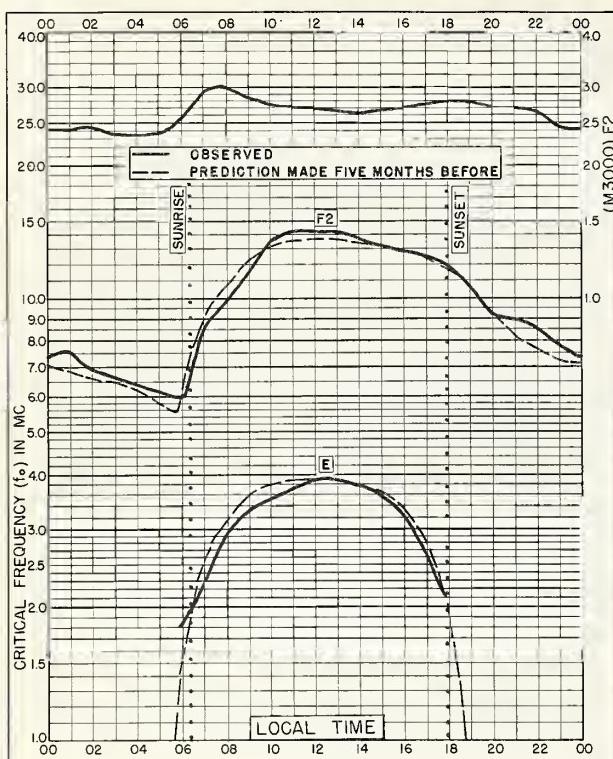
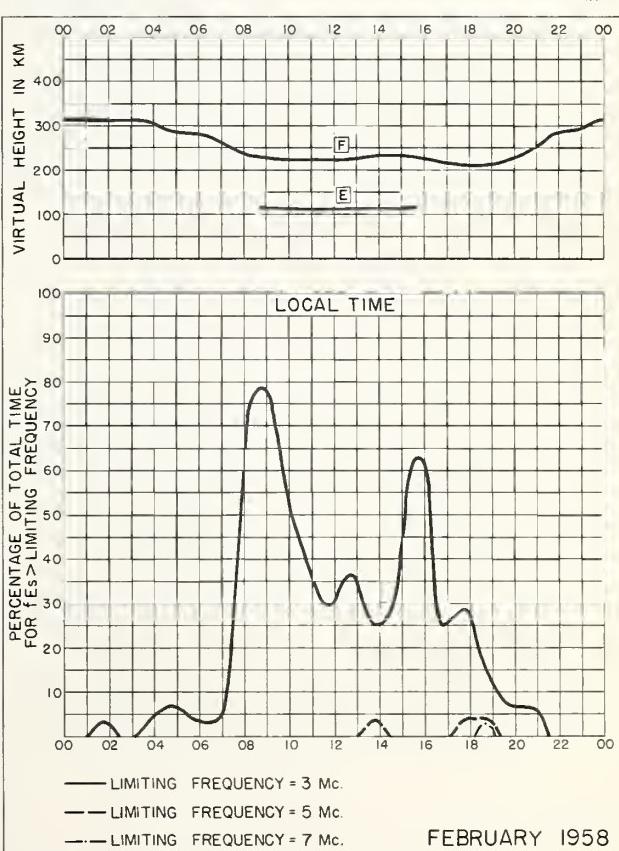
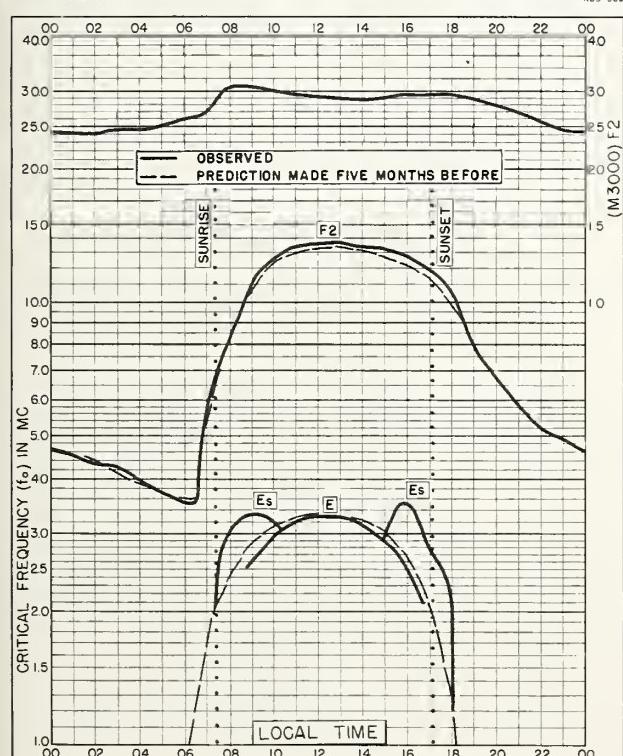
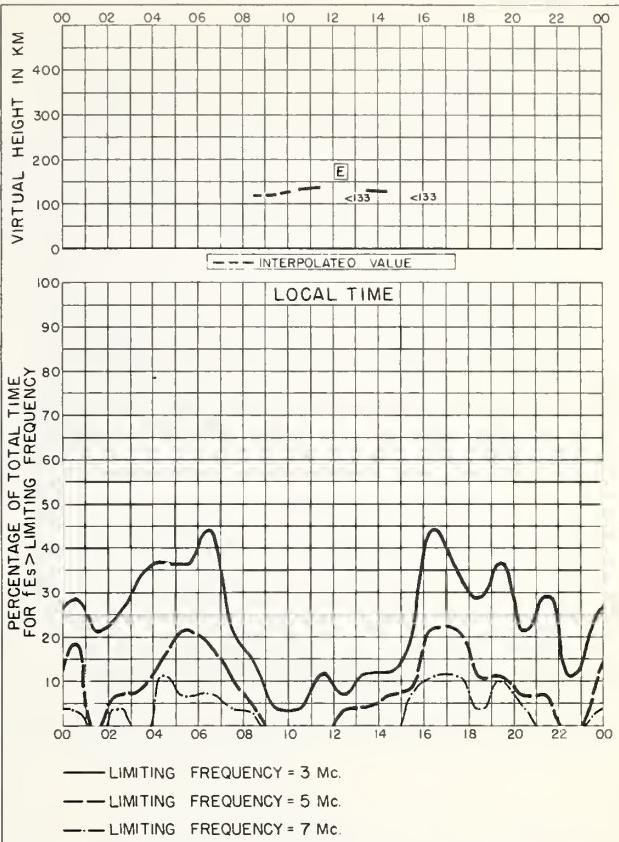
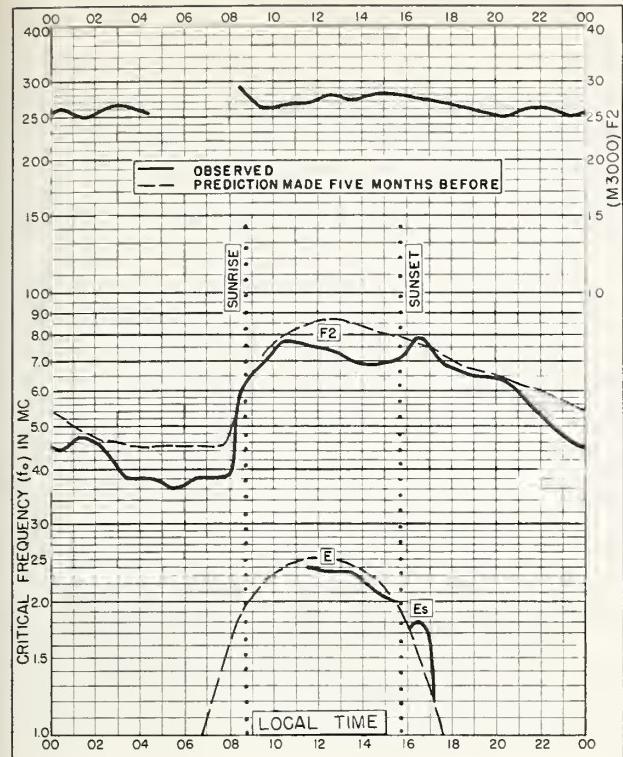


Fig. 72. LYCKSELE, SWEDEN

MARCH 1958







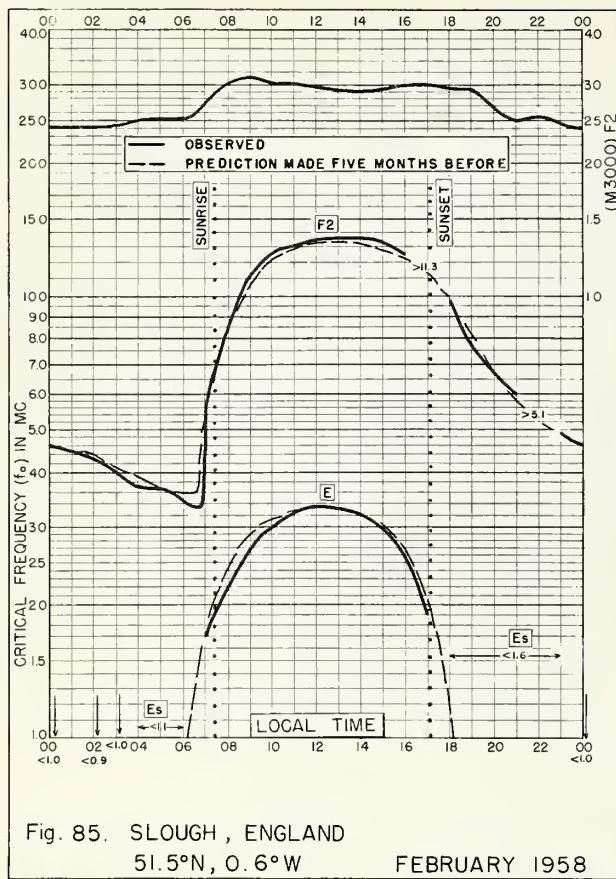


Fig. 85. SLOUGH, ENGLAND

51.5°N, 0.6°W

FEBRUARY 1958

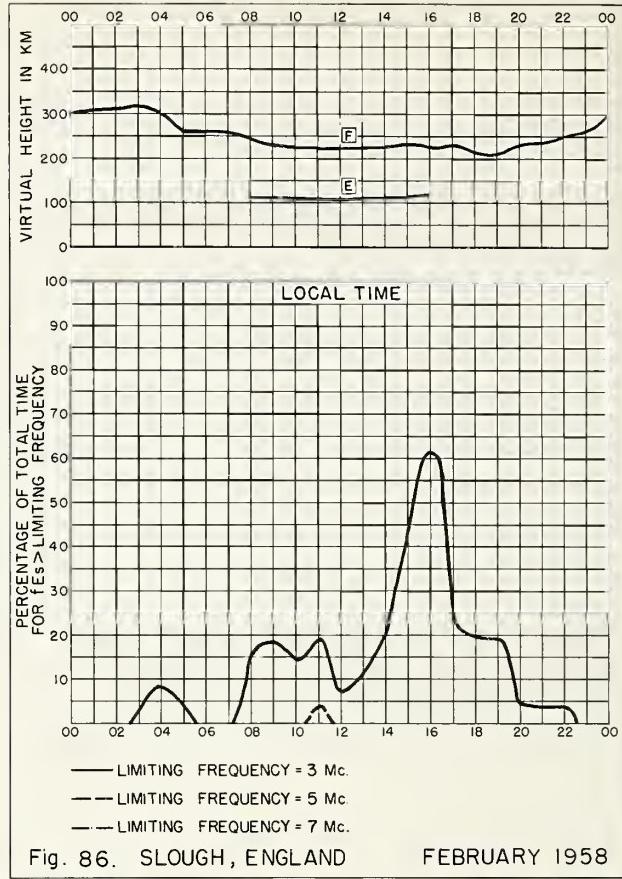


Fig. 85. SLOUGH, ENGLAND

51.5°N, 0.6°W

FEBRUARY 1958

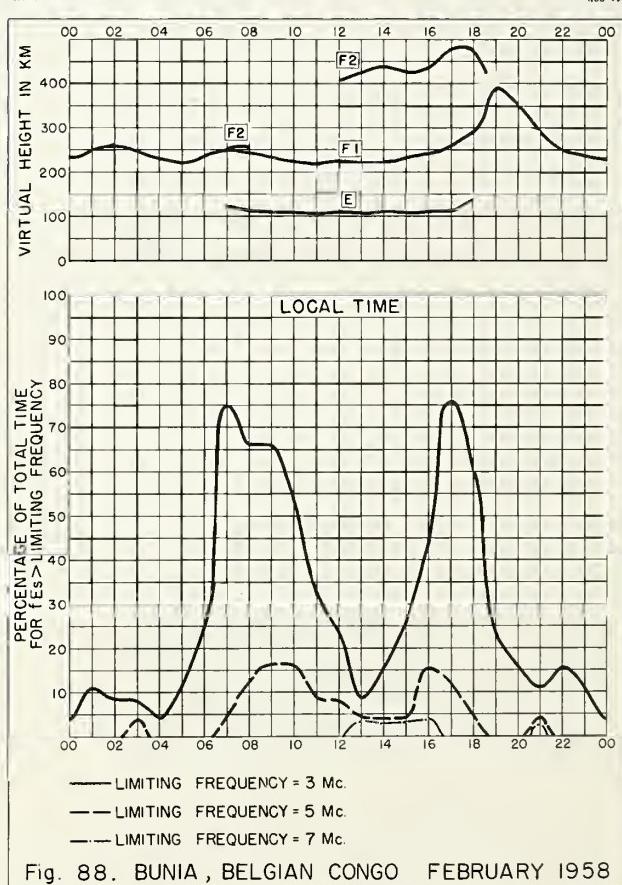


Fig. 87. BUNIA, BELGIAN CONGO

BONNA, BEEGOM  
15°N 30 2°E

FEBRUARY 1958



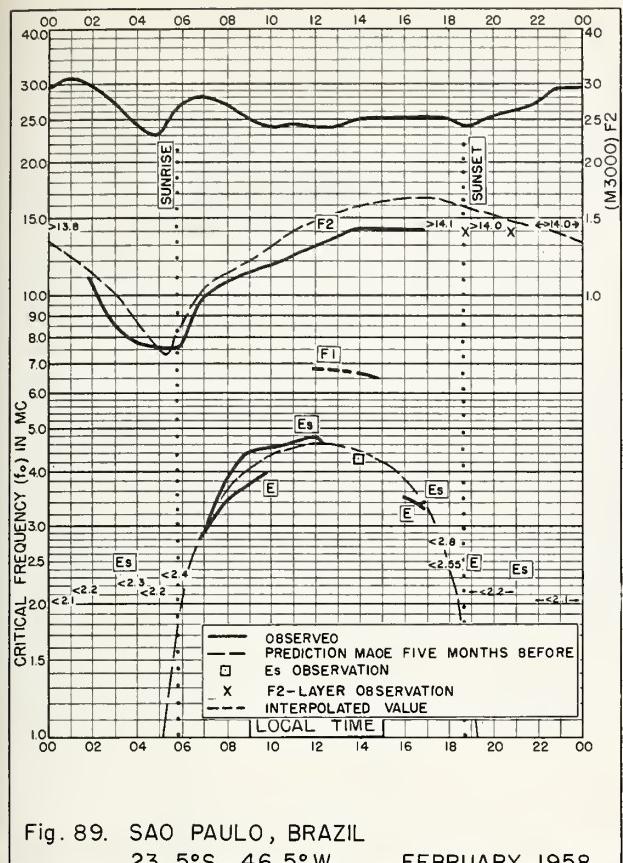


Fig. 89. SAO PAULO, BRAZIL  
 23.5°S, 46.5°W FEBRUARY 1958

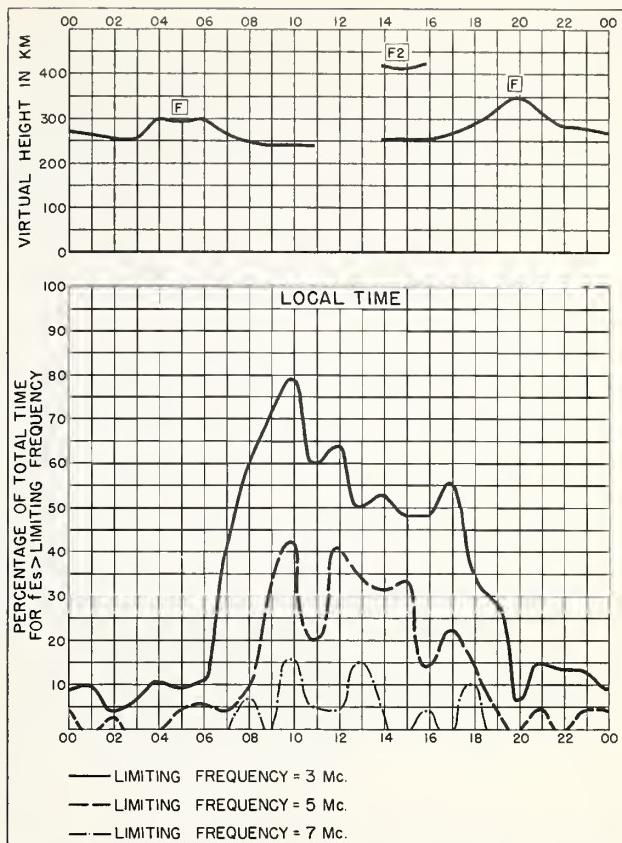


Fig. 90. SAO PAULO, BRAZIL FEBRUARY 1958

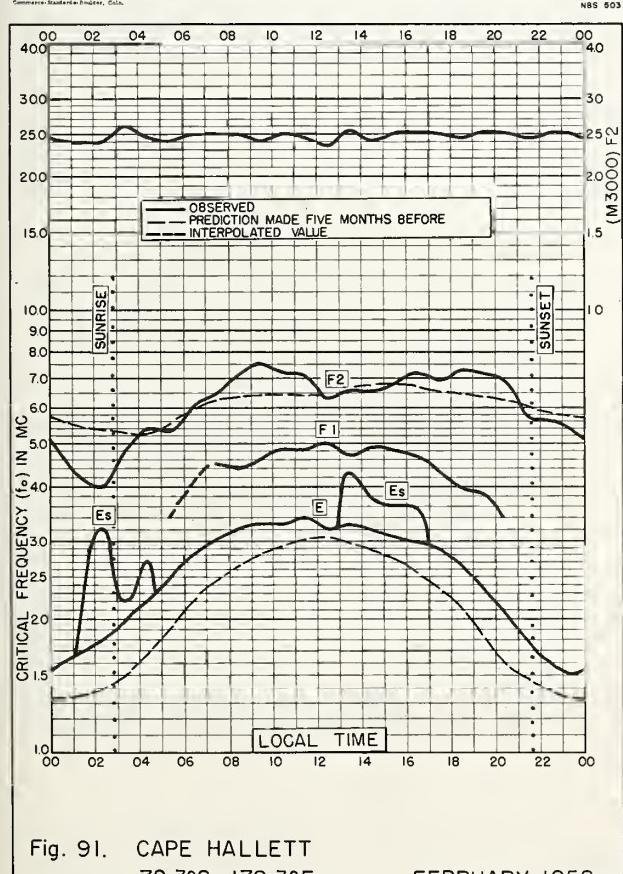


Fig. 91. CAPE HALLETT  
 72°30'S., 170°30'F FEBRUARY 1958

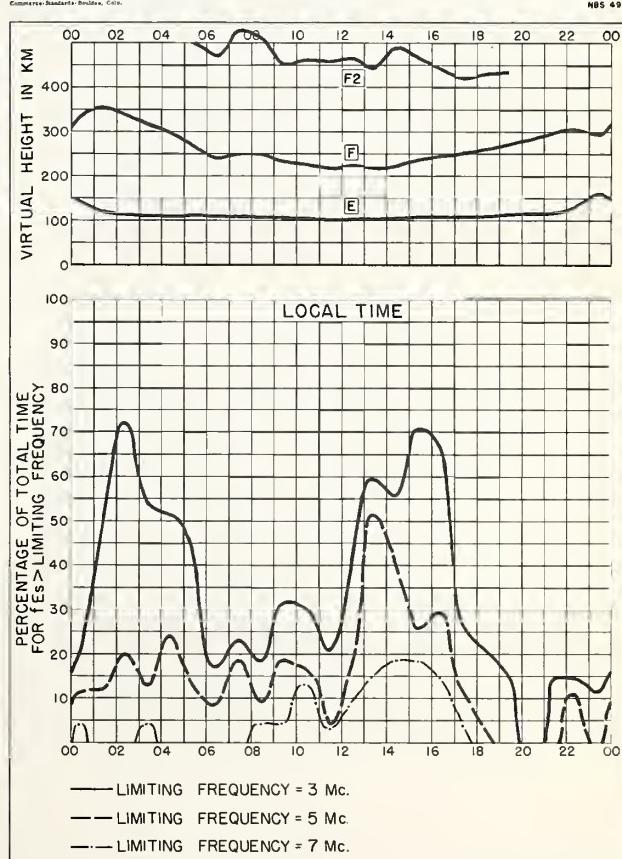


Fig. 92. CAPE HALLETT FEBRUARY 1958

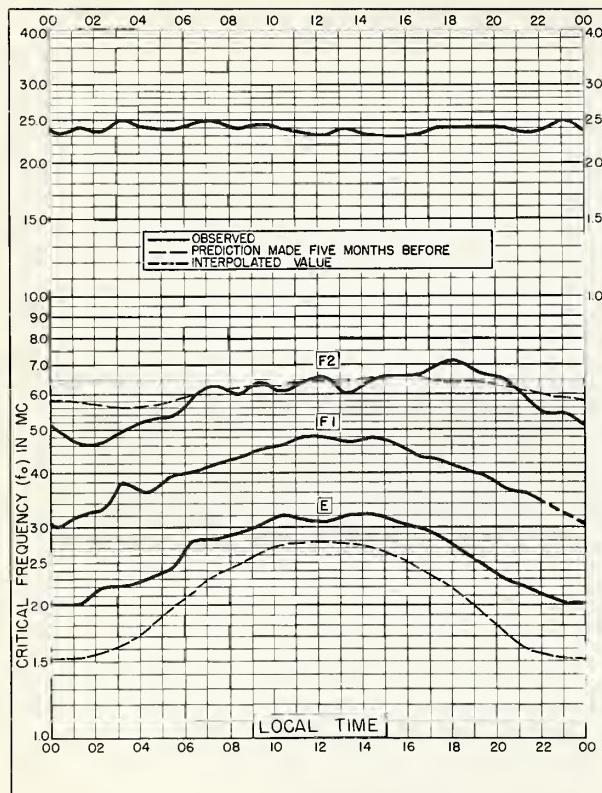


Fig. 93. SCOTT BASE  
77.8°S, 166.8°E FEBRUARY 1958

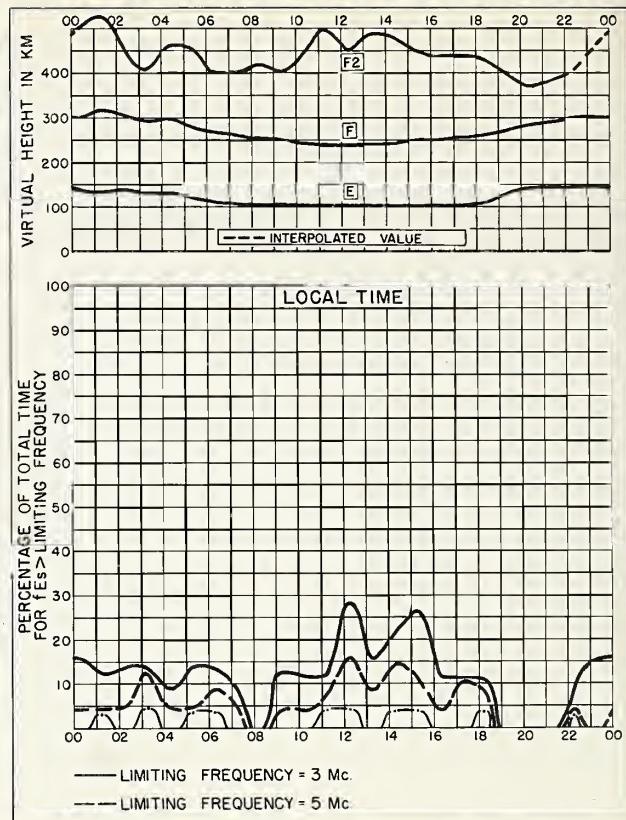


Fig. 94. SCOTT BASE FEBRUARY 1958

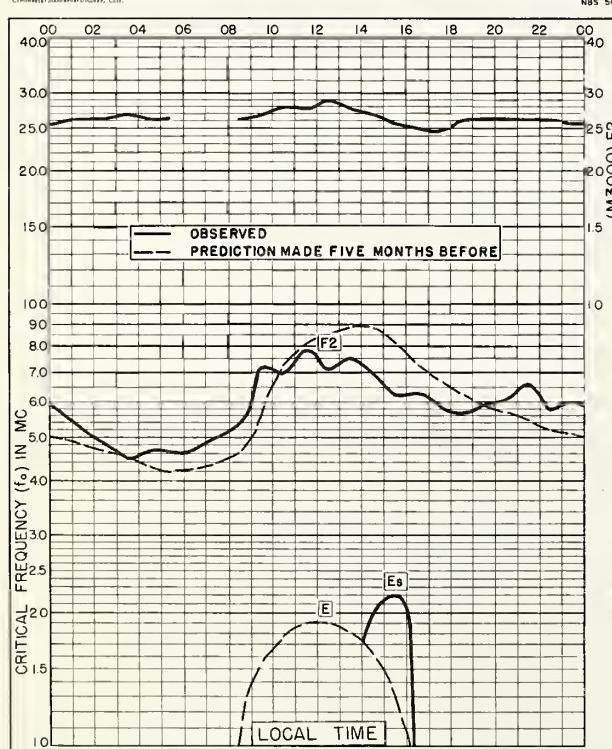


Fig. 95. GODHAVN, GREENLAND  
69.3°N, 53.5°W JANUARY 1958

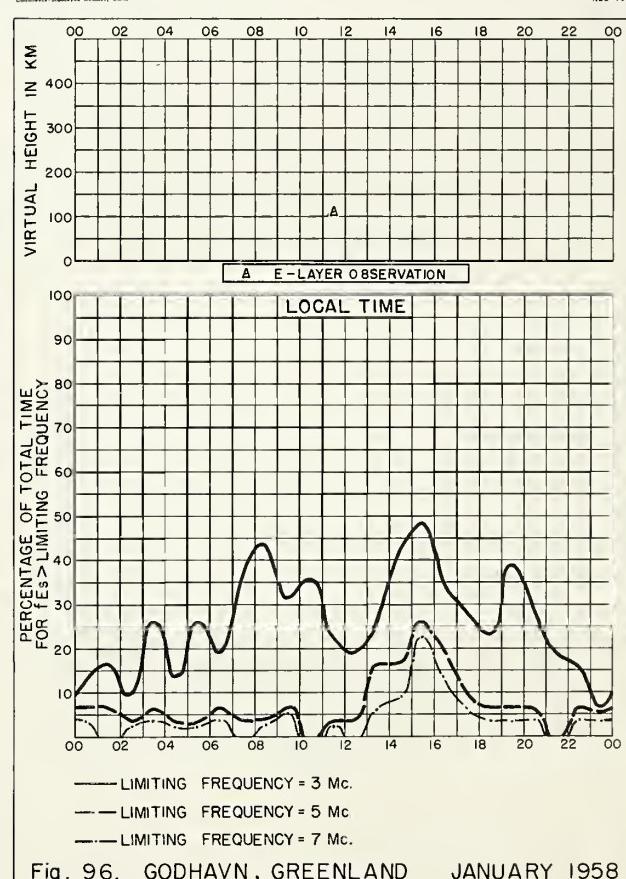


Fig. 96. GODHAVN, GREENLAND JANUARY 1958

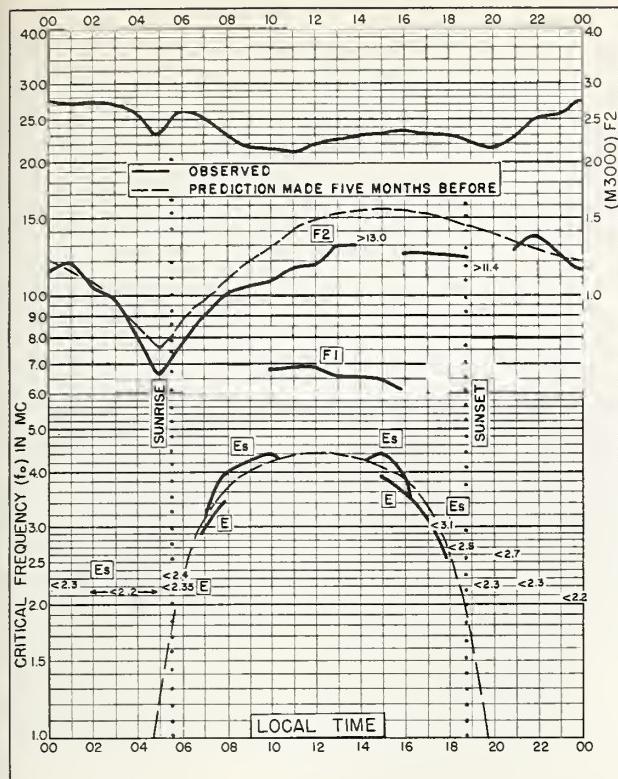


Fig. 97. SAO PAULO, BRAZIL  
23.5°S, 46.5°W JANUARY 1958

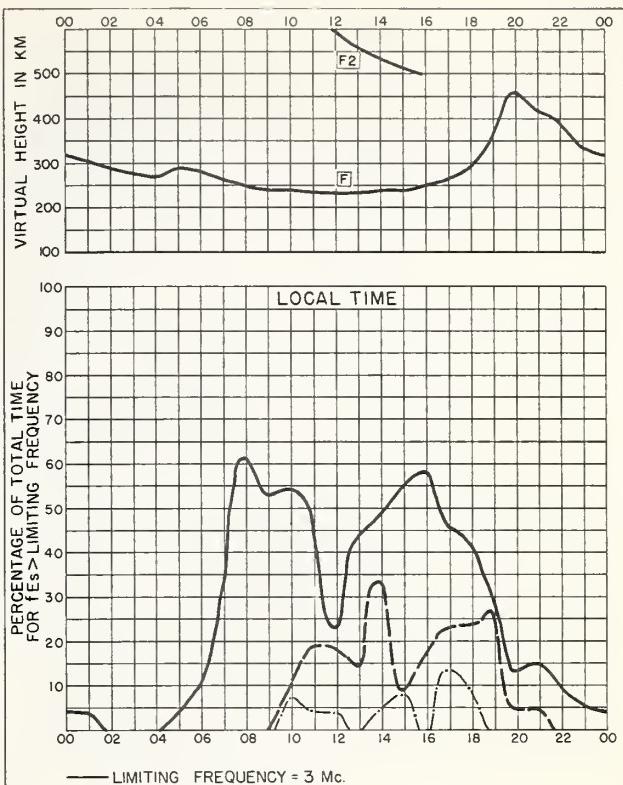


Fig. 98. SAO PAULO, BRAZIL JANUARY 1958

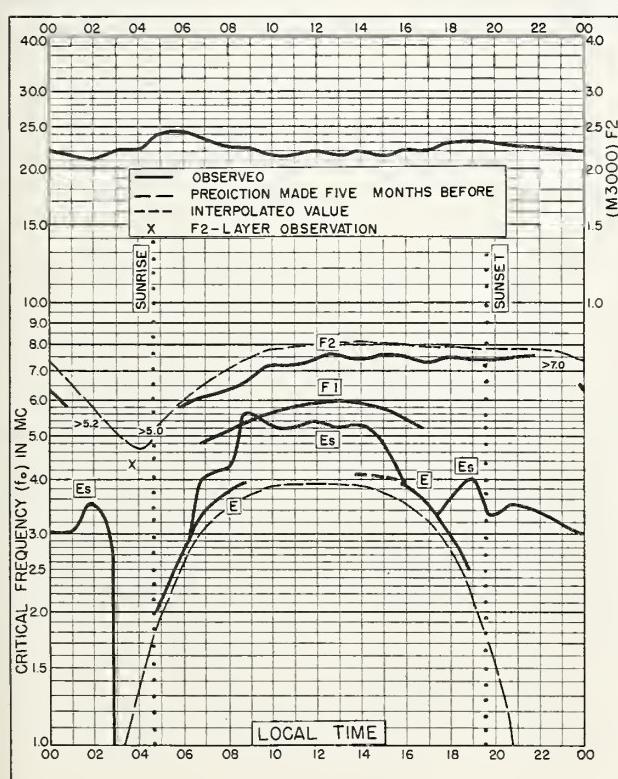


Fig. 99. HOBART, TASMANIA  
42.9°S, 147.2°E JANUARY 1958

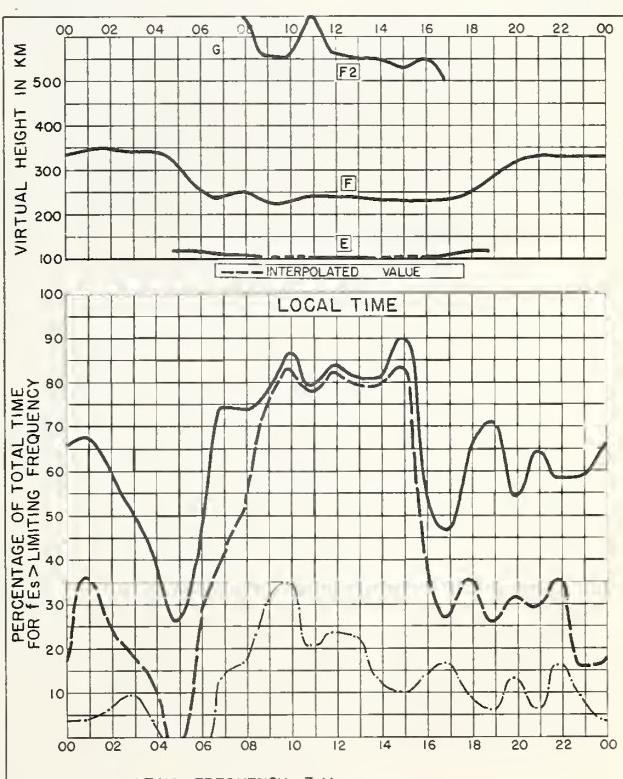
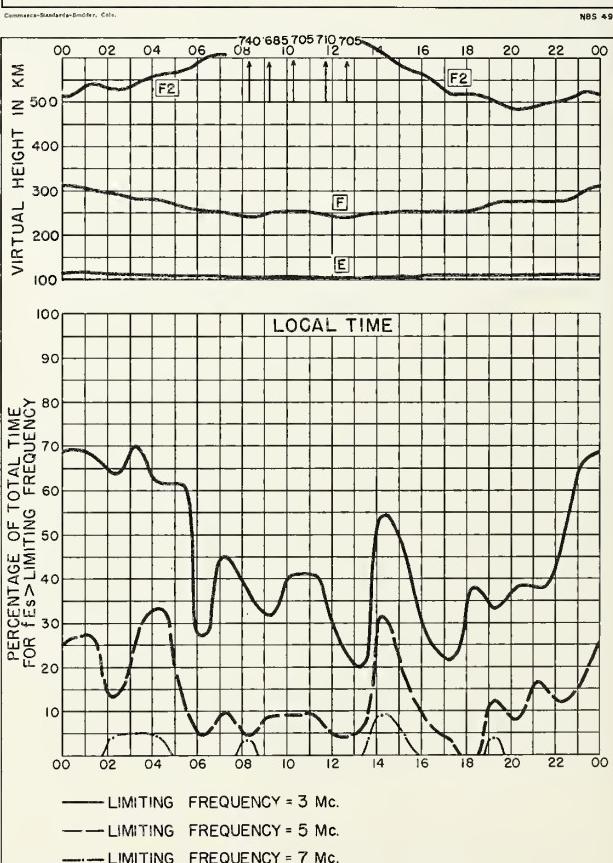
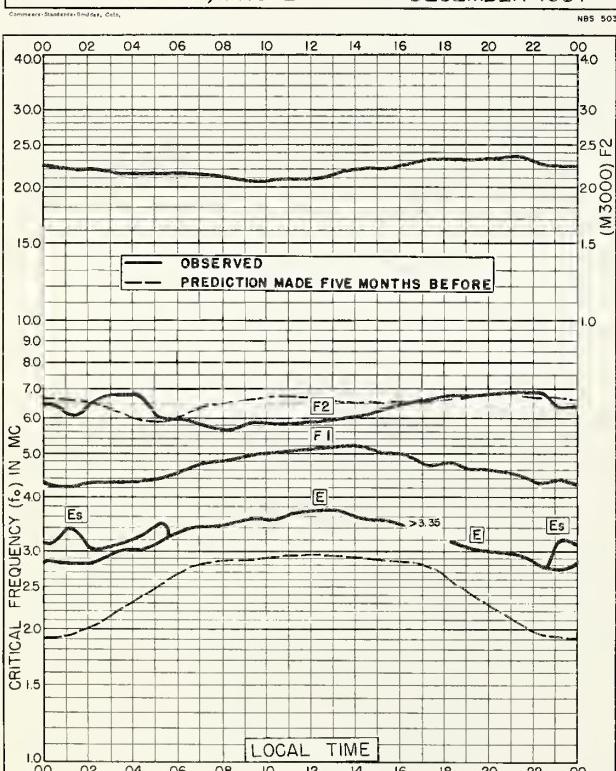
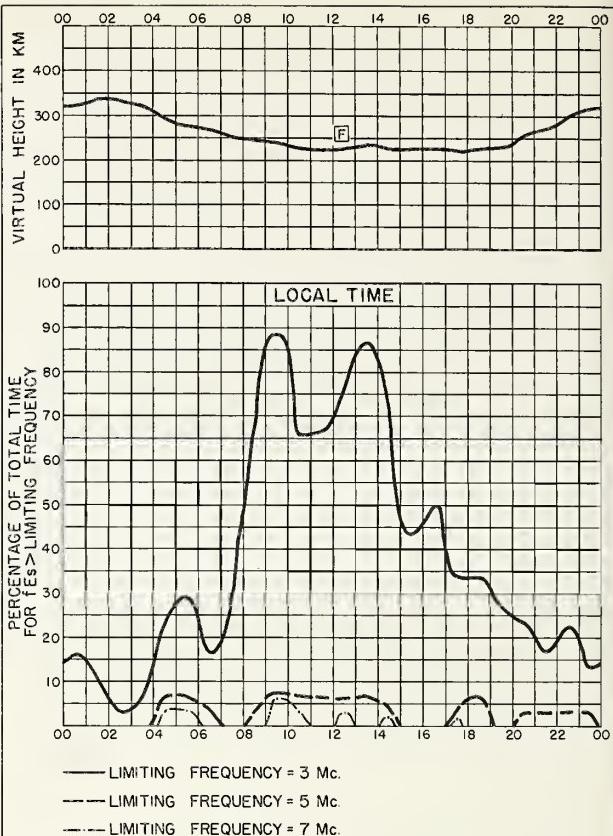
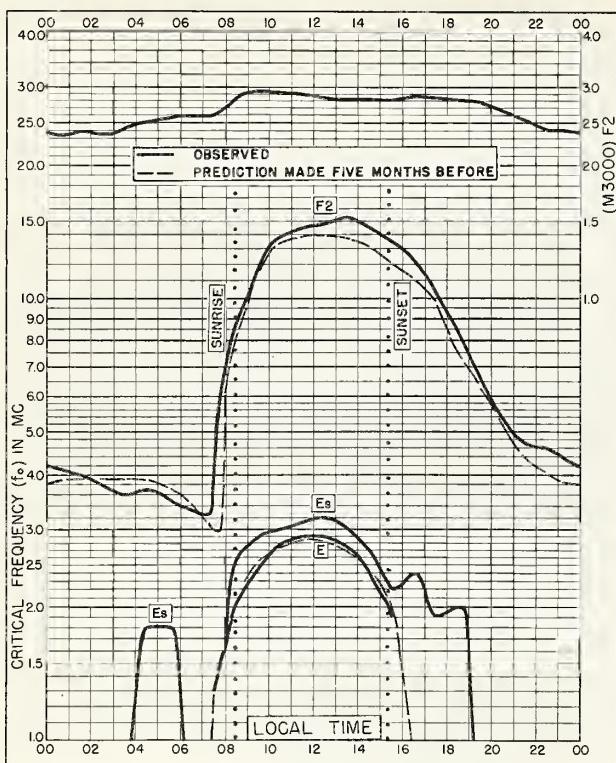


Fig. 100. HOBART, TASMANIA JANUARY 1958



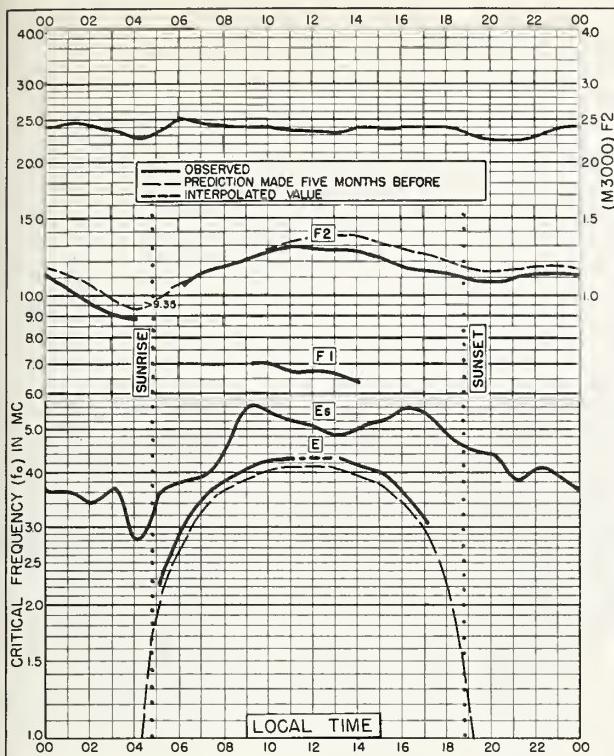


Fig. 105. CONCEPCION, CHILE  
36.6°S, 73.0°W NOVEMBER 1957

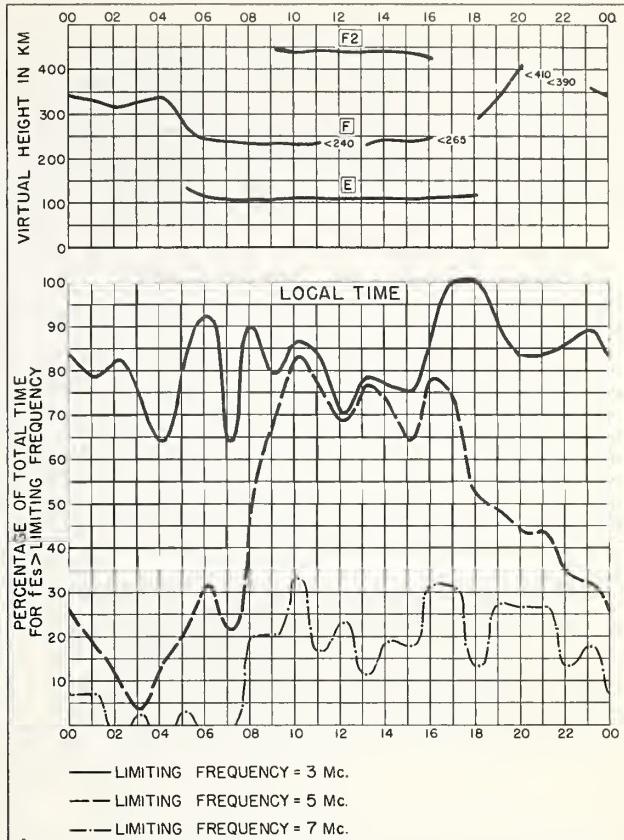


Fig. 106. CONCEPCION, CHILE NOVEMBER 1957

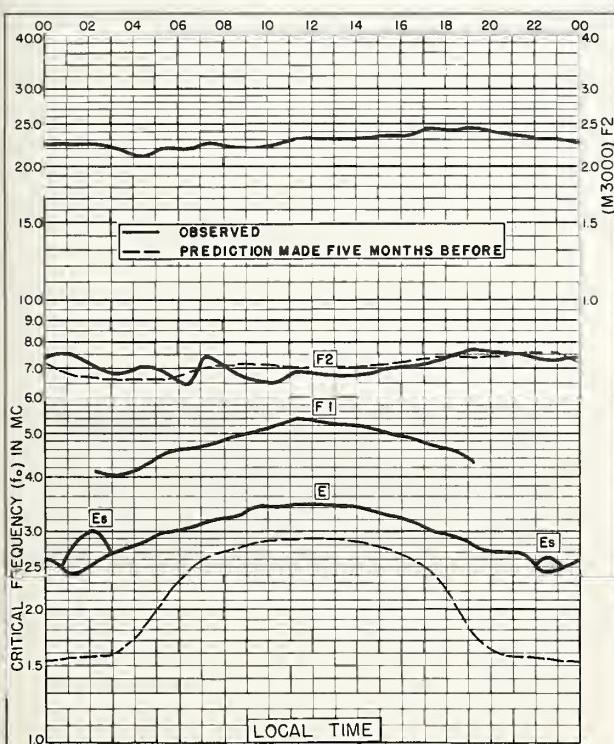


Fig. 107. ELLSWORTH  
77.7°S, 41.1°W NOVEMBER 1957

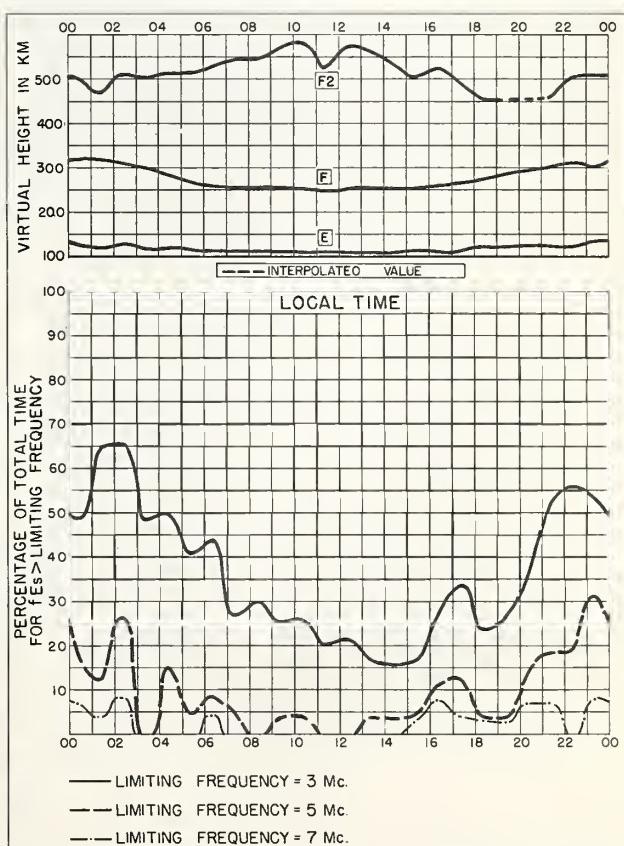


Fig. 108. ELLSWORTH NOVEMBER 1957

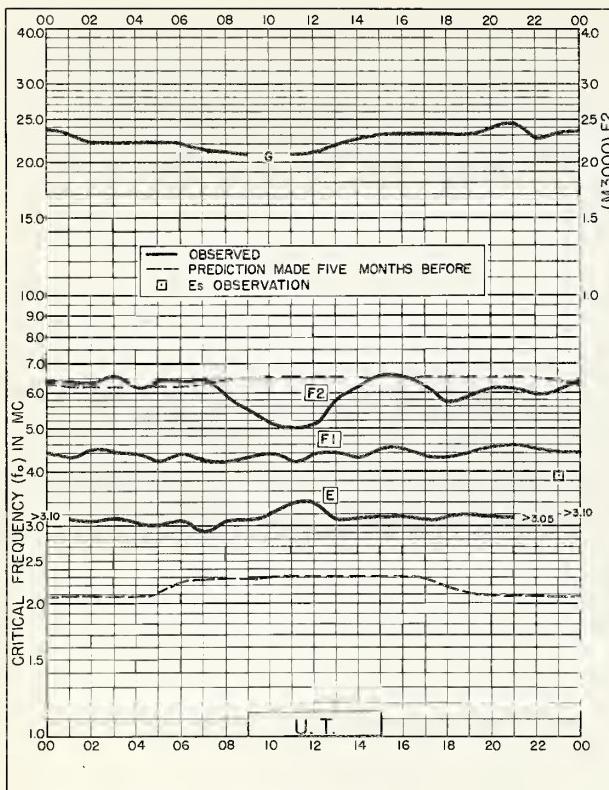


Fig. 109. POLE STATION  
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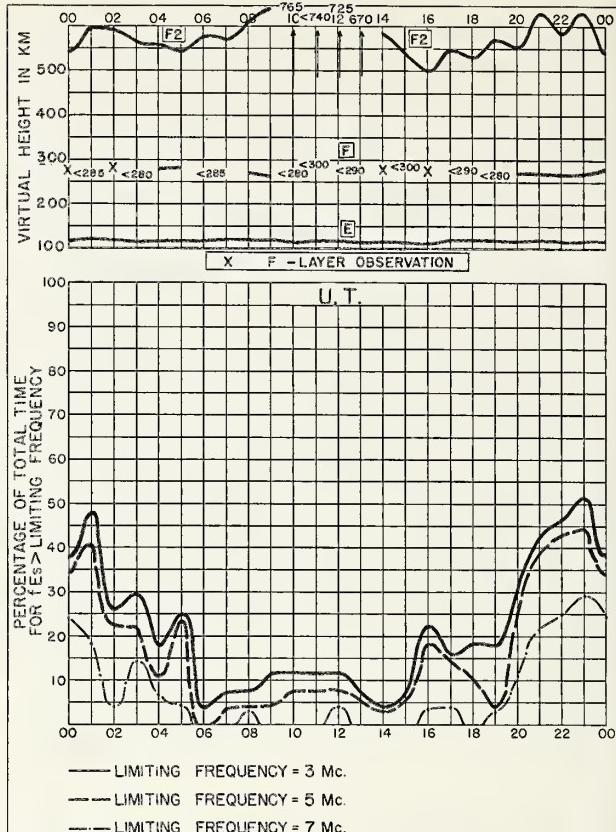


Fig. 110. POLE STATION NOVEMBER 1957

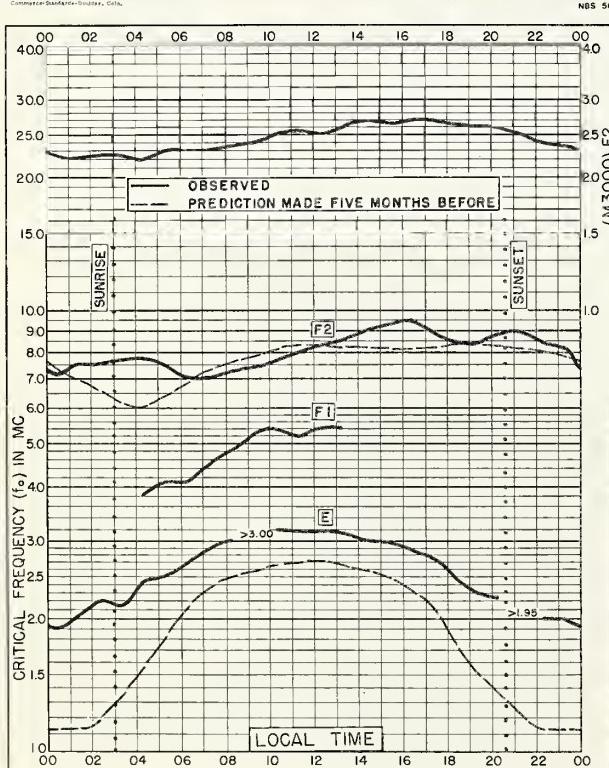


Fig. 111. ELLSWORTH  
77.7°S, 41.1°W OCTOBER 1957

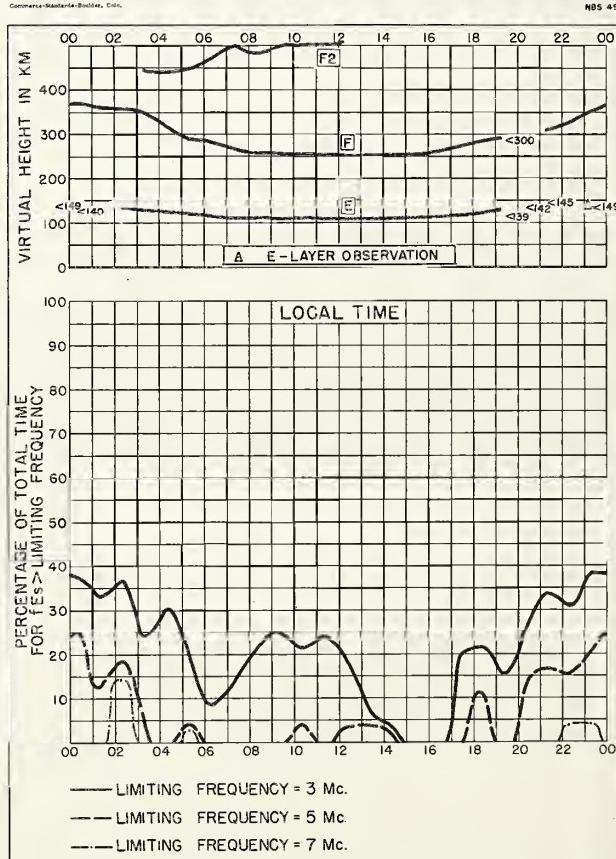


Fig. 112. ELLSWORTH OCTOBER 1957

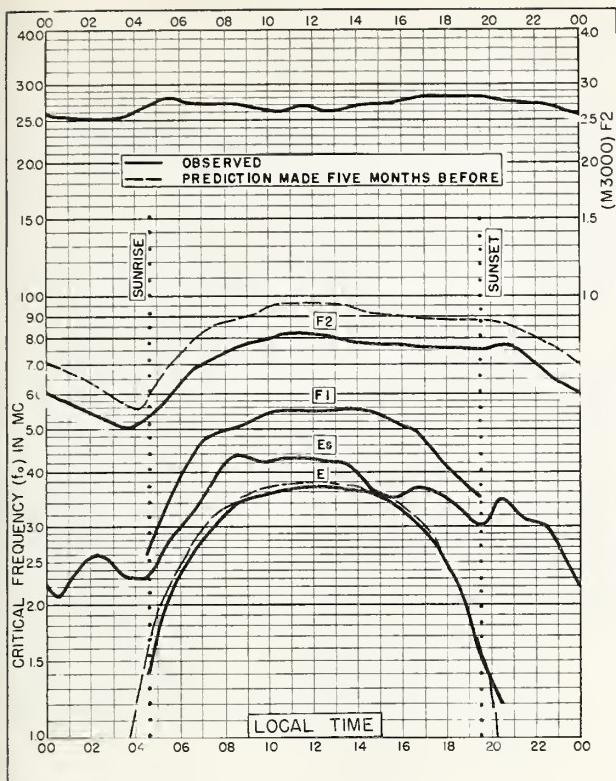


Fig. 113. MOSCOW, U.S.S.R.

55.5°N, 37.3°E

AUGUST 1957

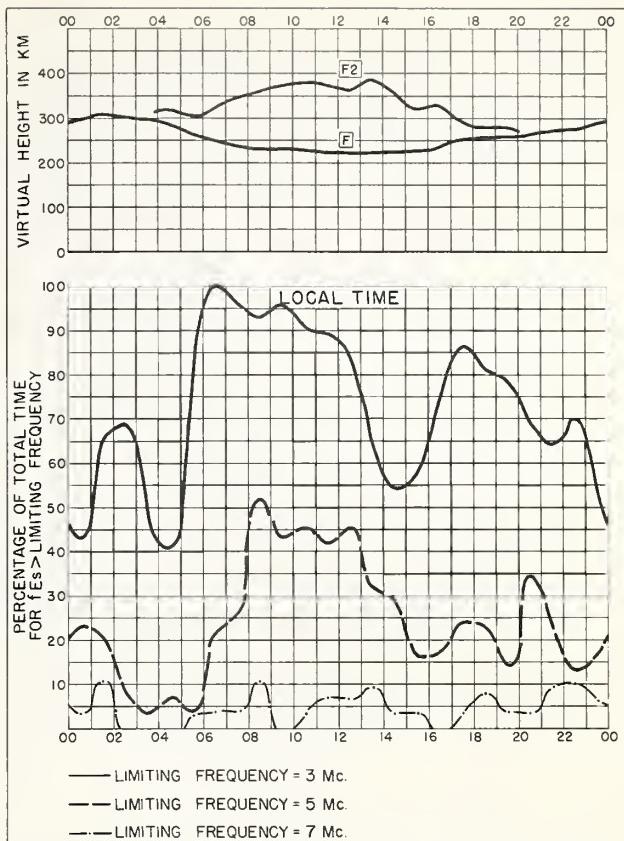


Fig. 114. MOSCOW, U.S.S.R.

AUGUST 1957

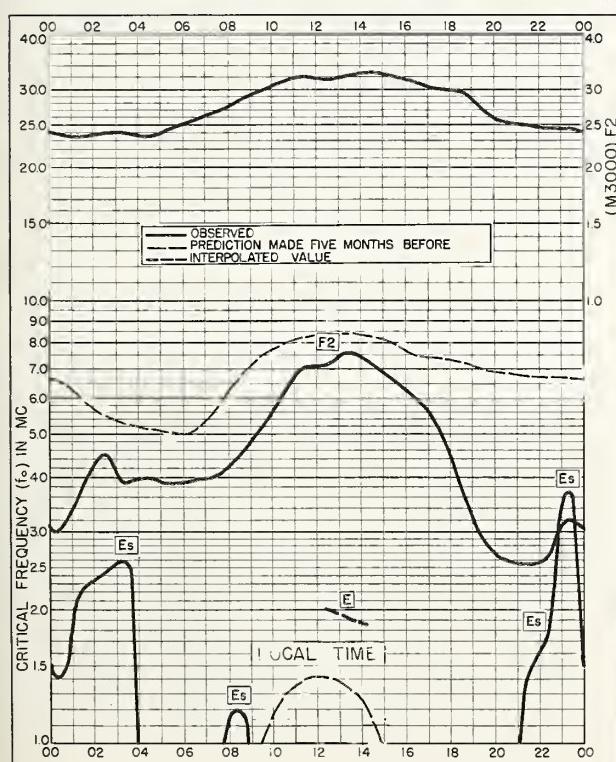


Fig. 115. ELLSWORTH

77.7°S, 41.1°W

AUGUST 1957

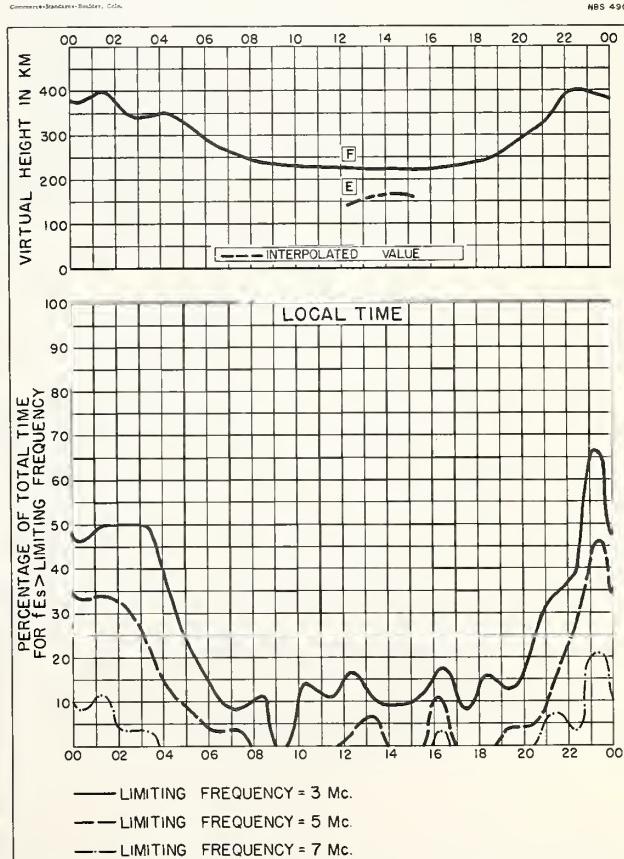
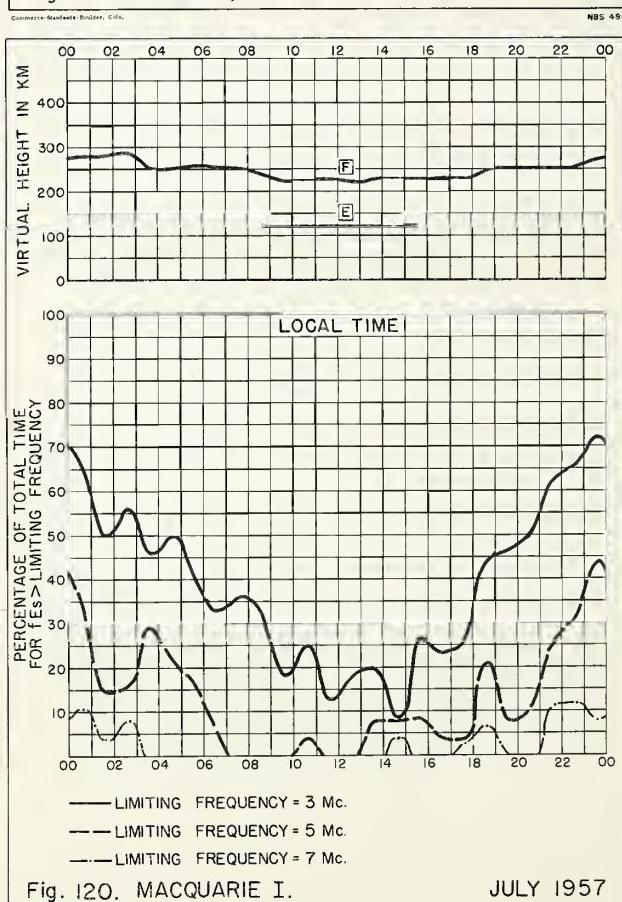
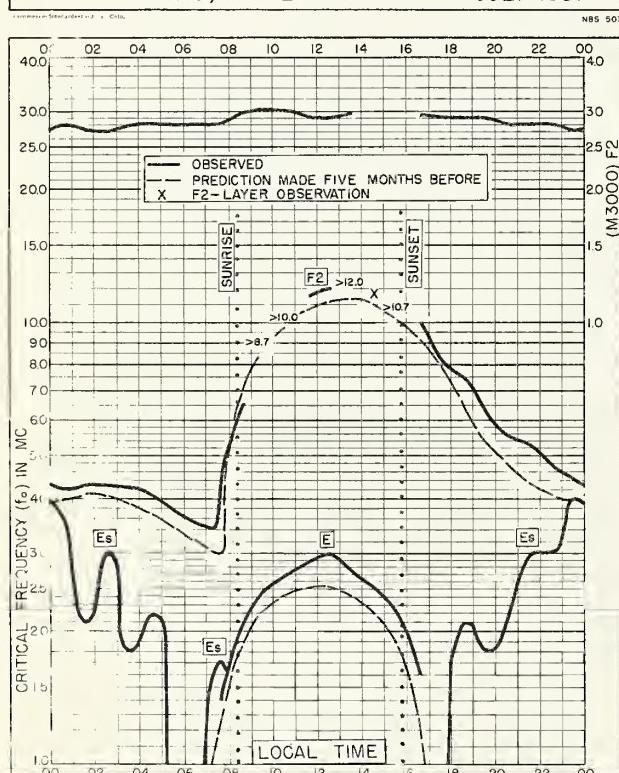
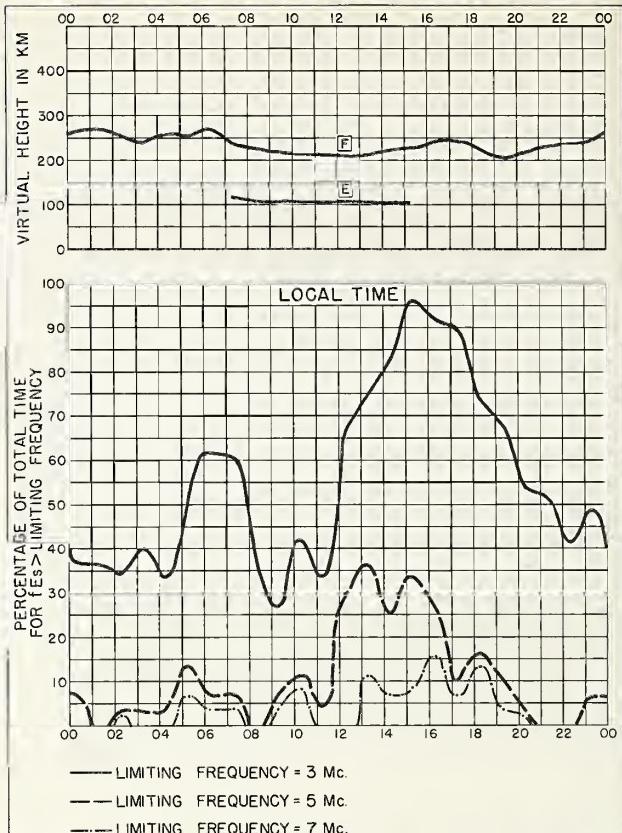
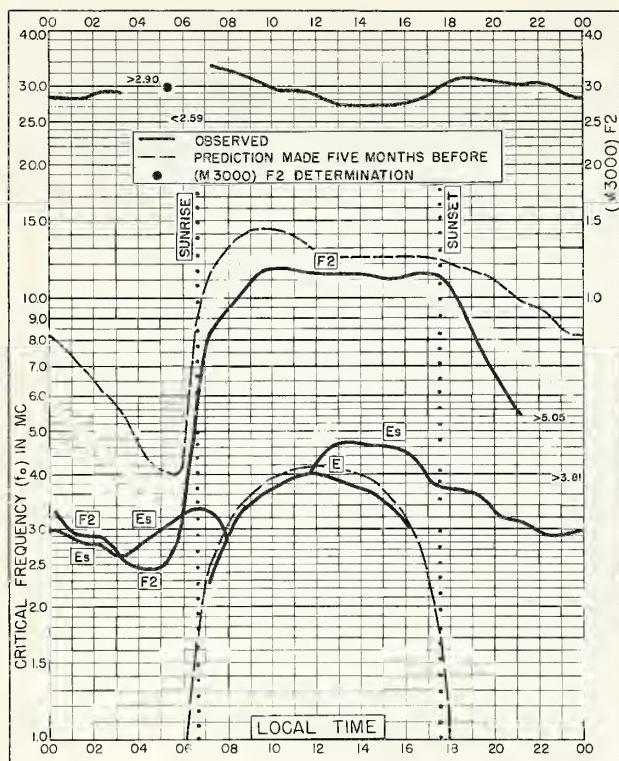


Fig. 116. ELLSWORTH

AUGUST 1957



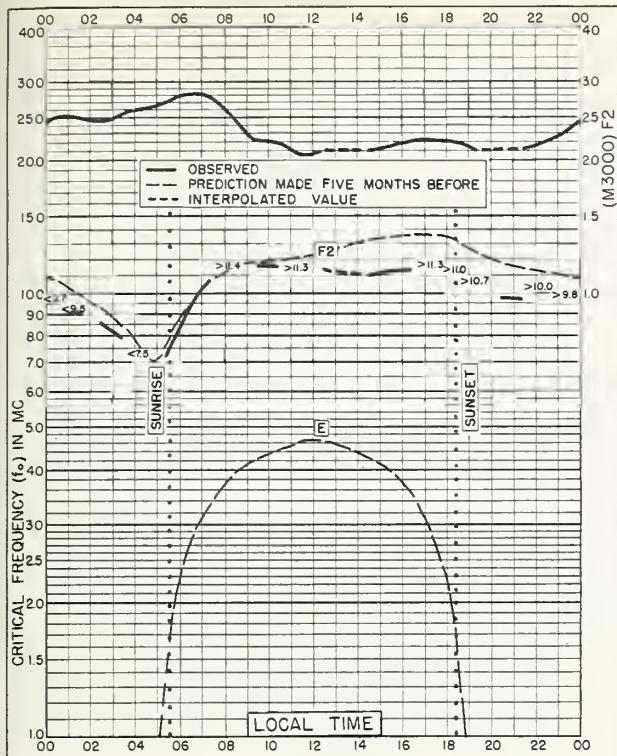


Fig. 121. MADRAS, INDIA  
13.0°N, 80.2°E

JUNE 1957

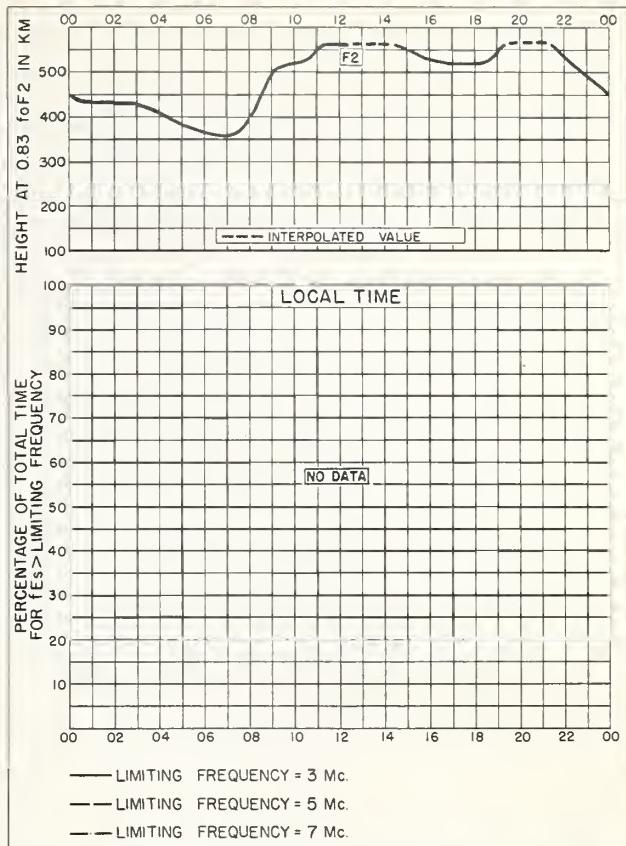


Fig. 122. MADRAS, INDIA

JUNE 1957

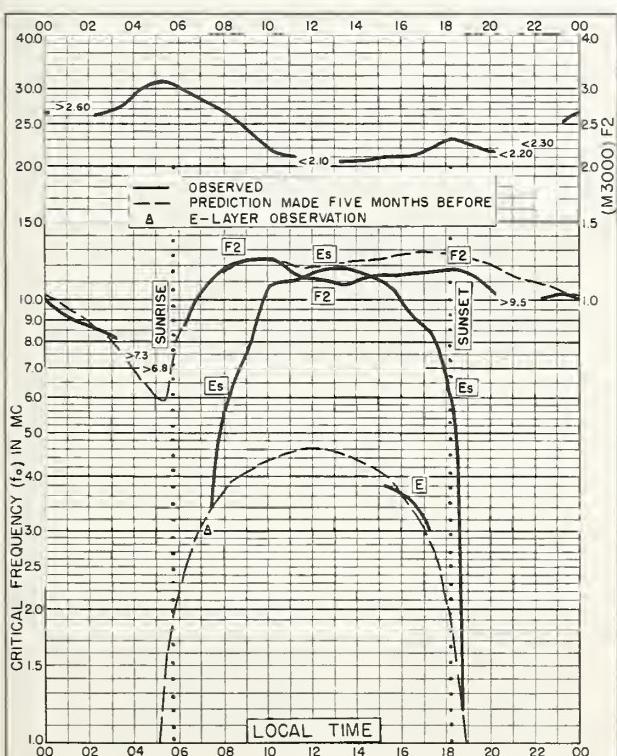


Fig. 123. KODAIKANAL, INDIA  
10.2°N, 77.5°E

JUNE 1957

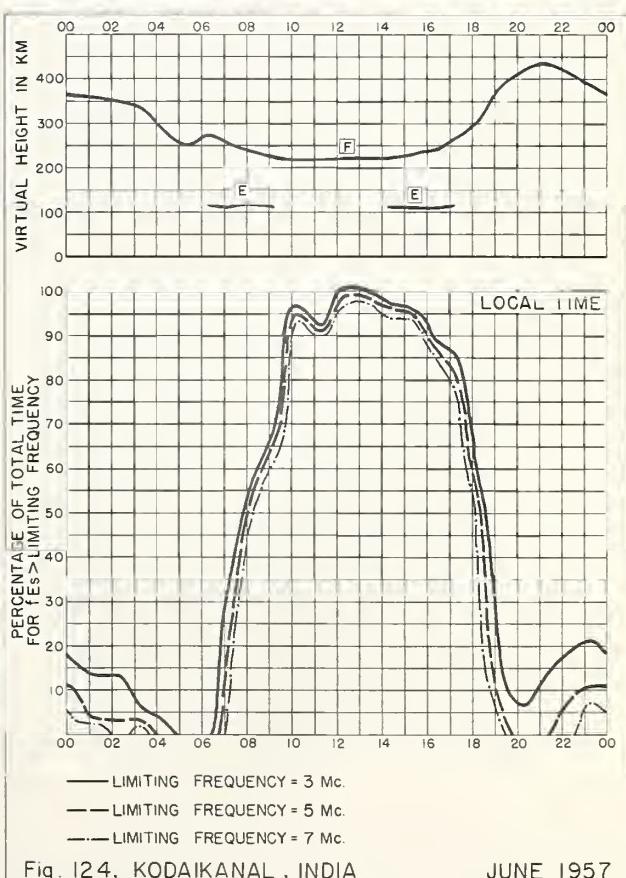


Fig. 124. KODAIKANAL, INDIA

JUNE 1957

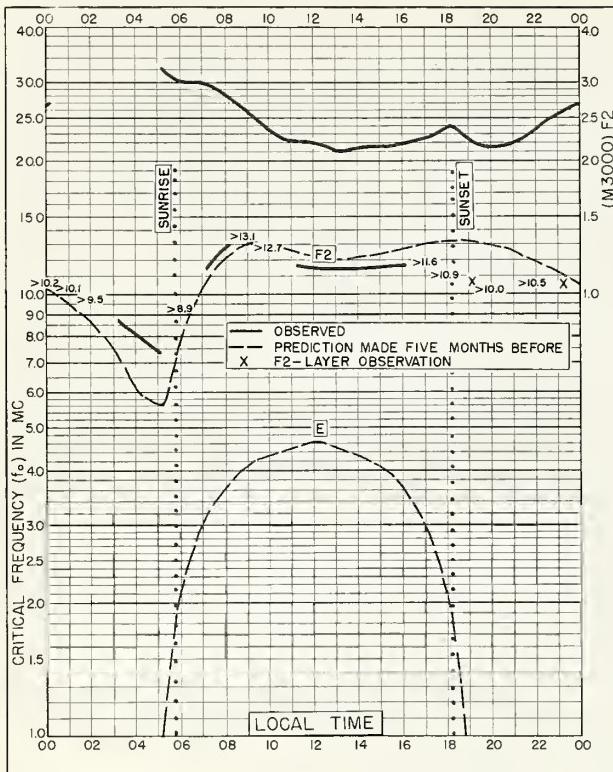


Fig. 125. TRIVANDRUM, INDIA

8.4°N , 77.0°E

JUNE 1957

NBS 503

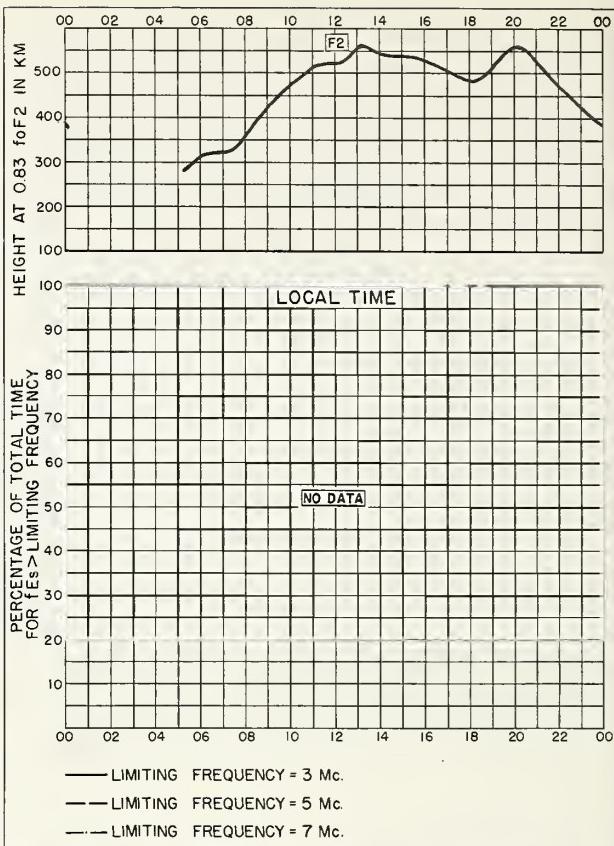


Fig. 126. TRIVANDRUM, INDIA

JUNE 1957

NBS 490

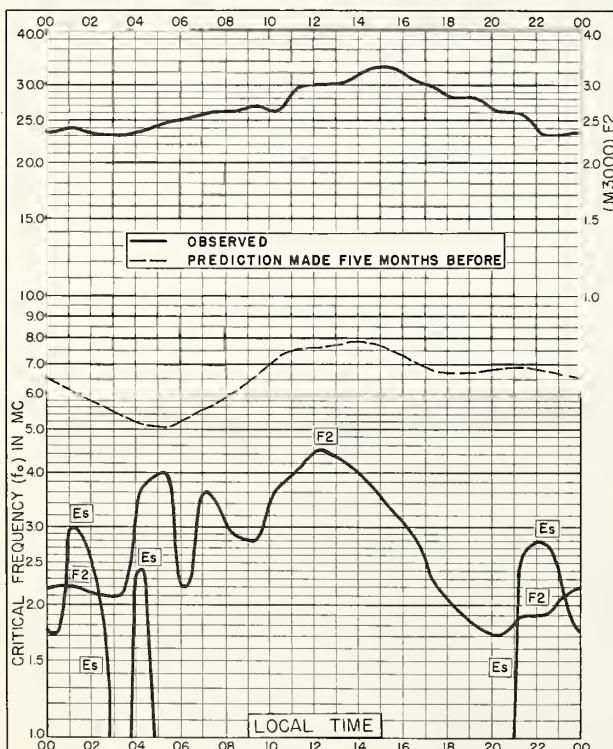


Fig. 127. ELLSWORTH

77.7°S , 41.1°W

JUNE 1957

NBS 503

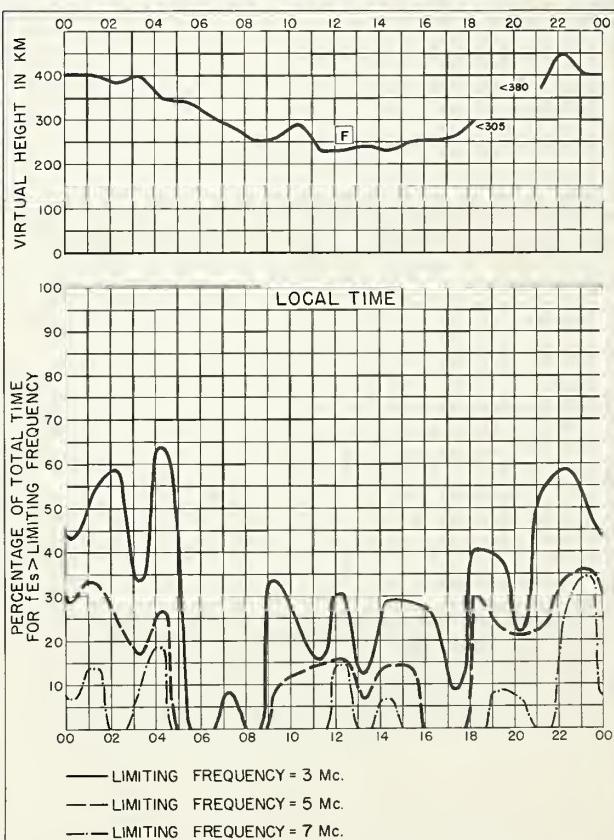
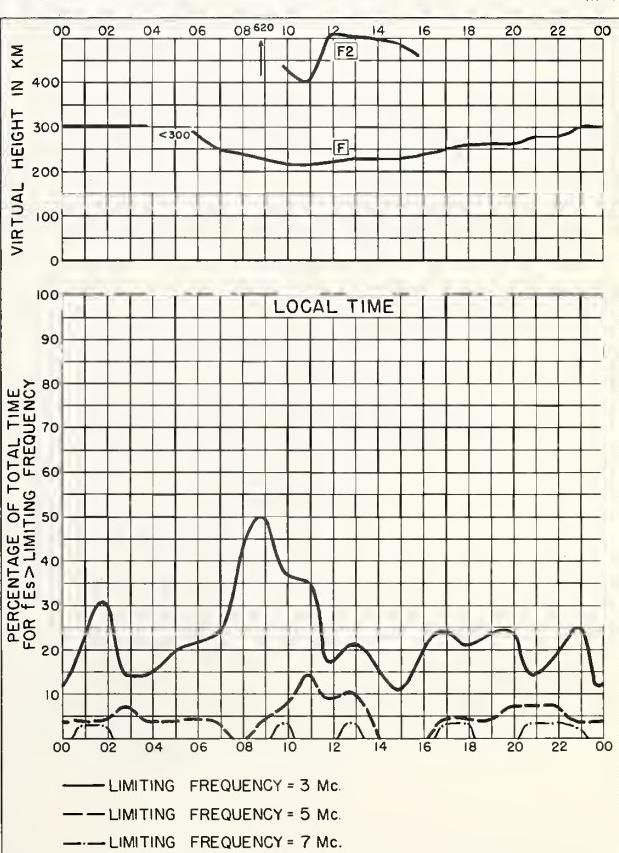
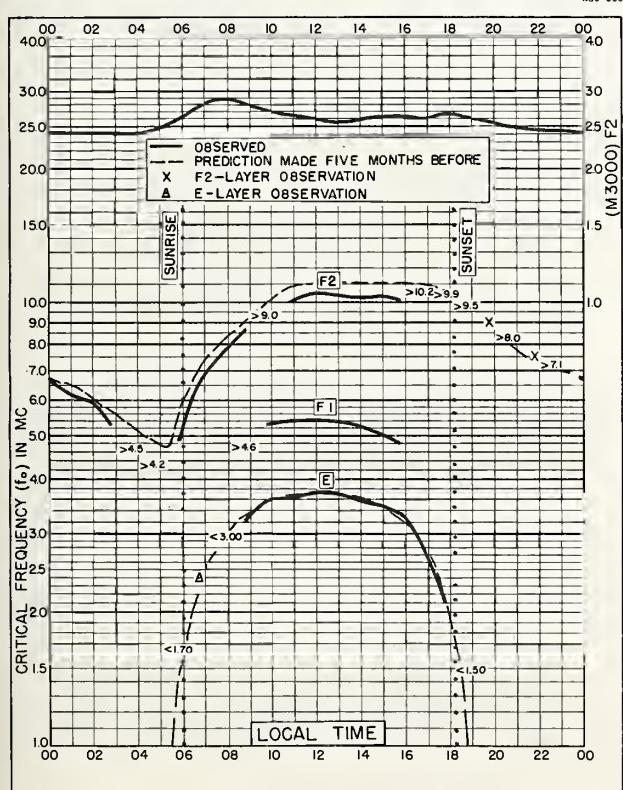
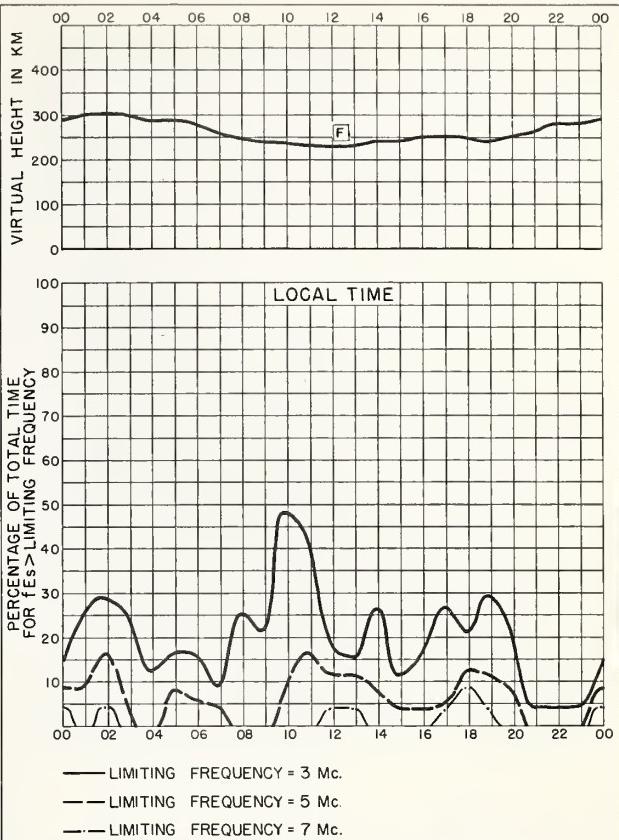
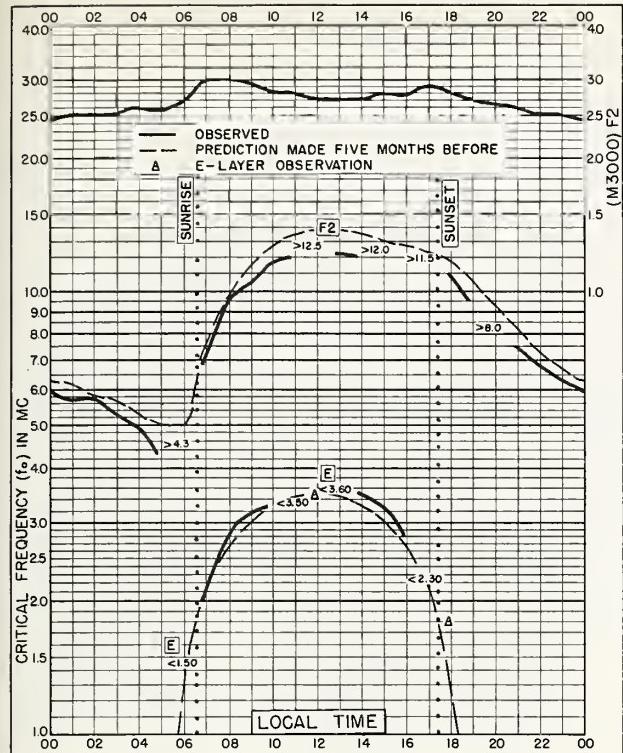
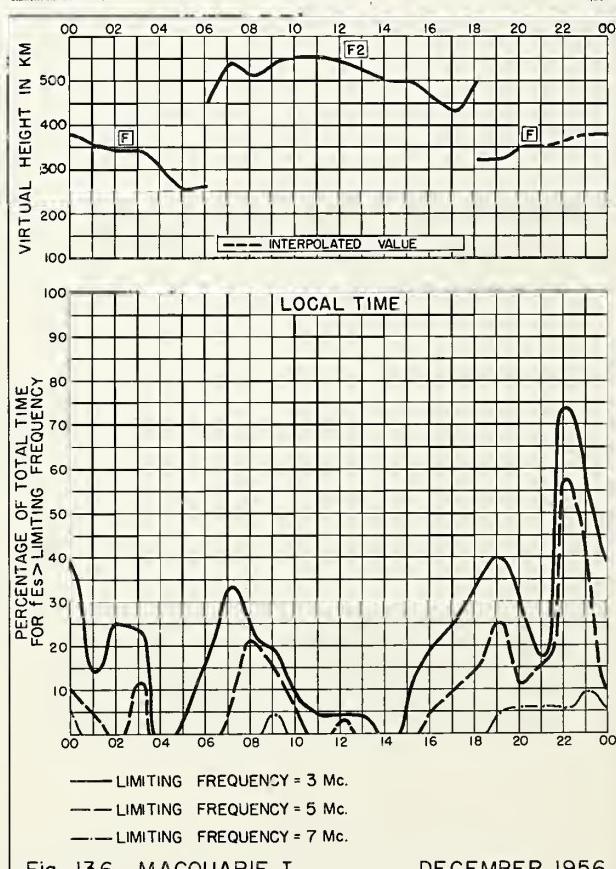
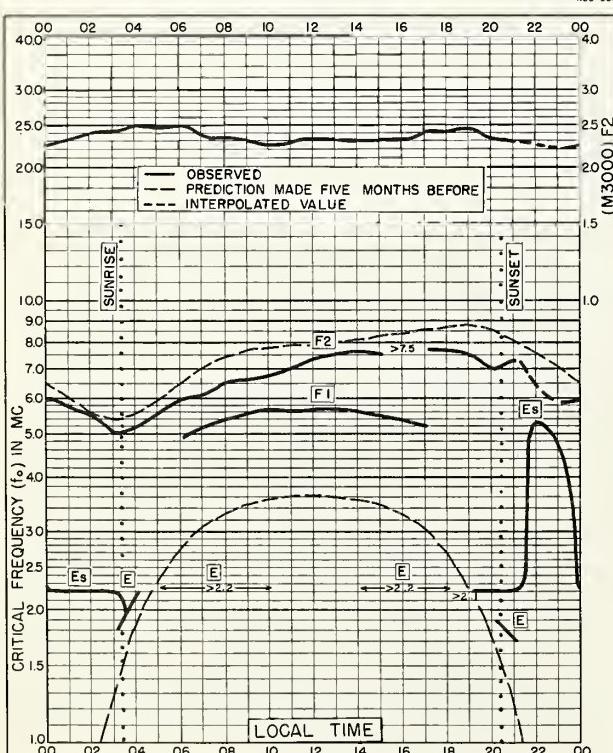
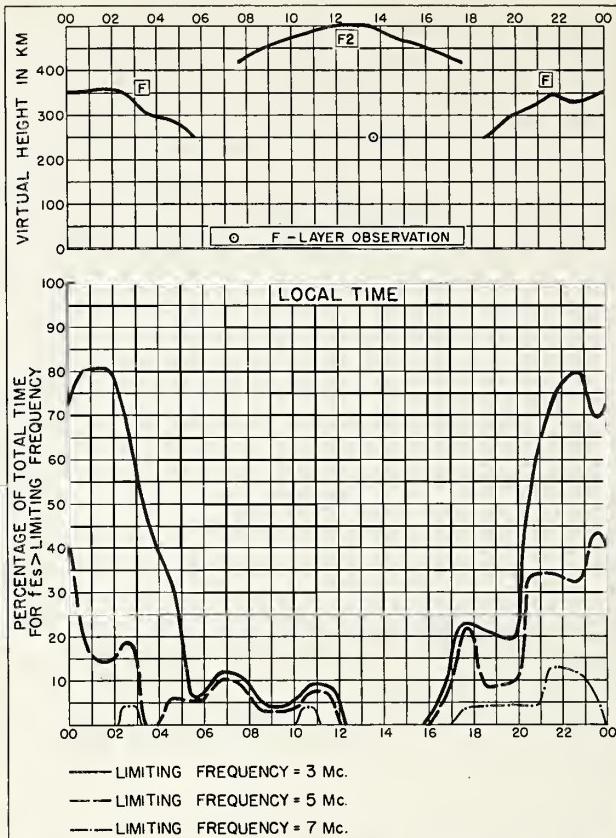
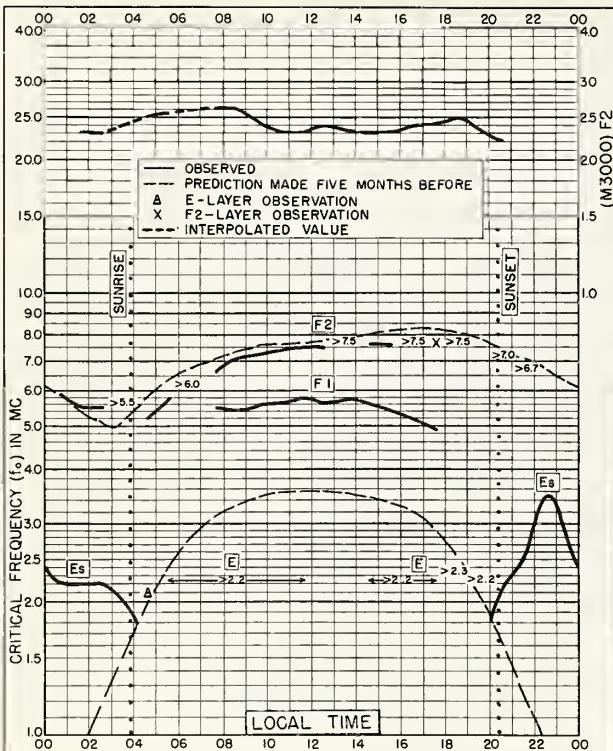


Fig. 128. ELLSWORTH

JUNE 1957

NBS 490





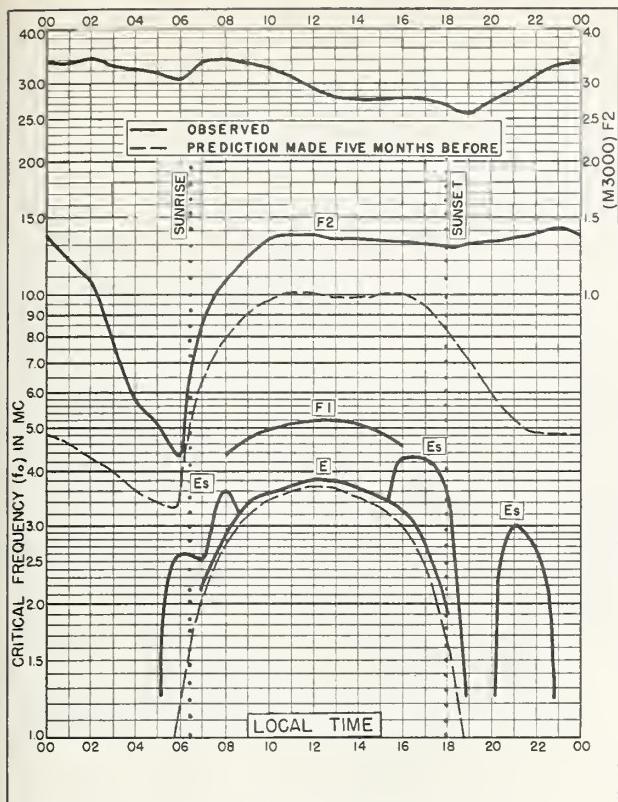


Fig. 137. DAKAR, FRENCH W. AFRICA  
14.1°N, 17.4°W FEBRUARY 1956

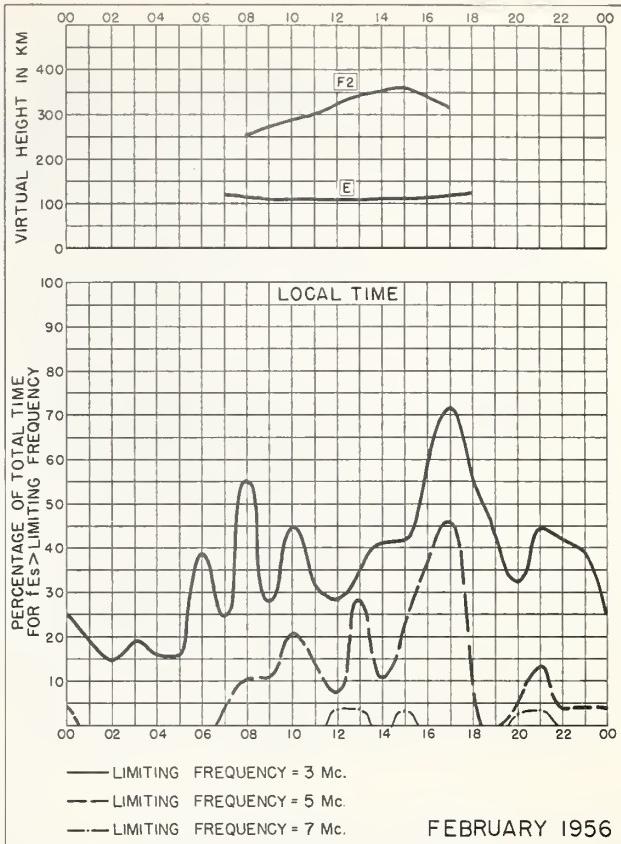


Fig. 138. DAKAR, FRENCH W. AFRICA

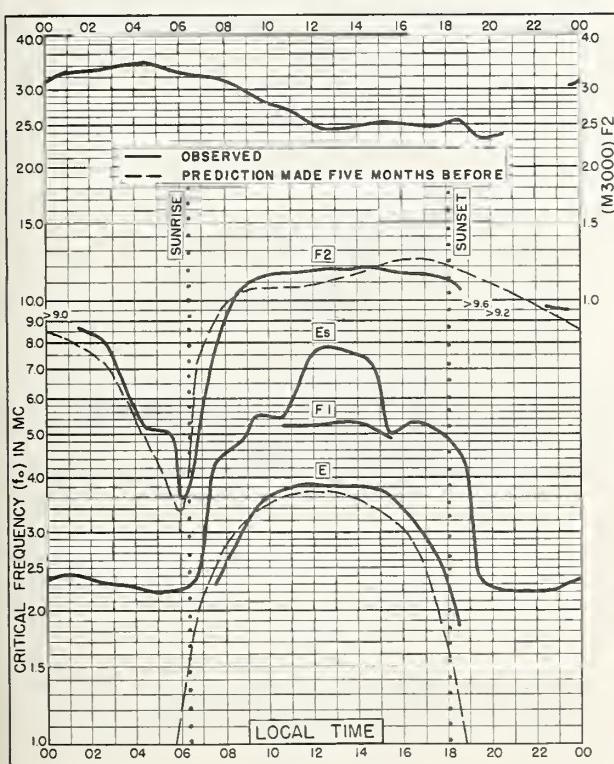


Fig. 139. DJIBOUTI, FRENCH SOMALILAND  
11.5°N, 43.1°E FEBRUARY 1956

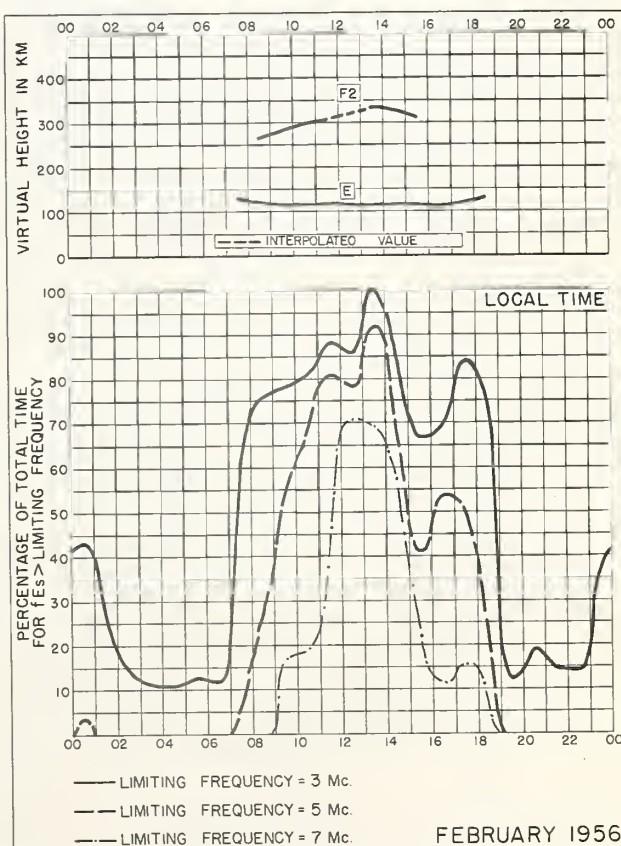


Fig. 140. DJIBOUTI, FRENCH SOMALILAND

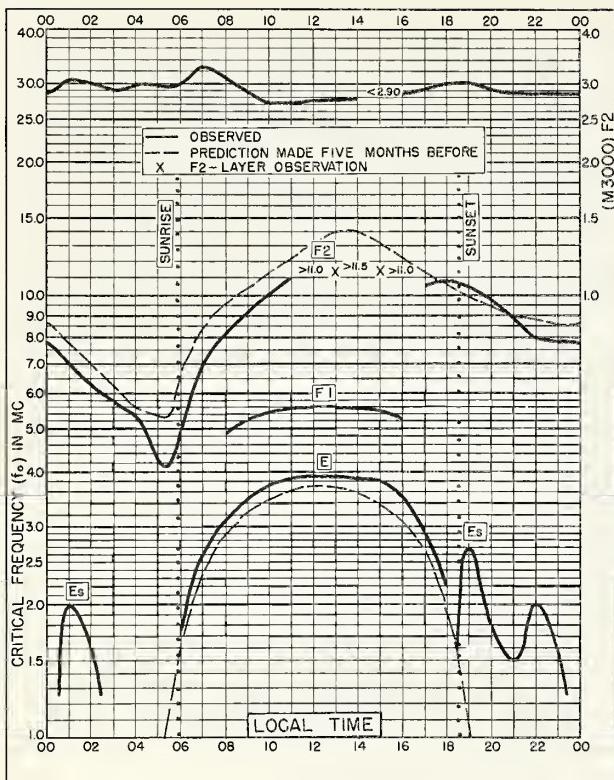


Fig. 141. TANANARIVE, MADAGASCAR  
18.9°S, 47.6°E FEBRUARY 1956

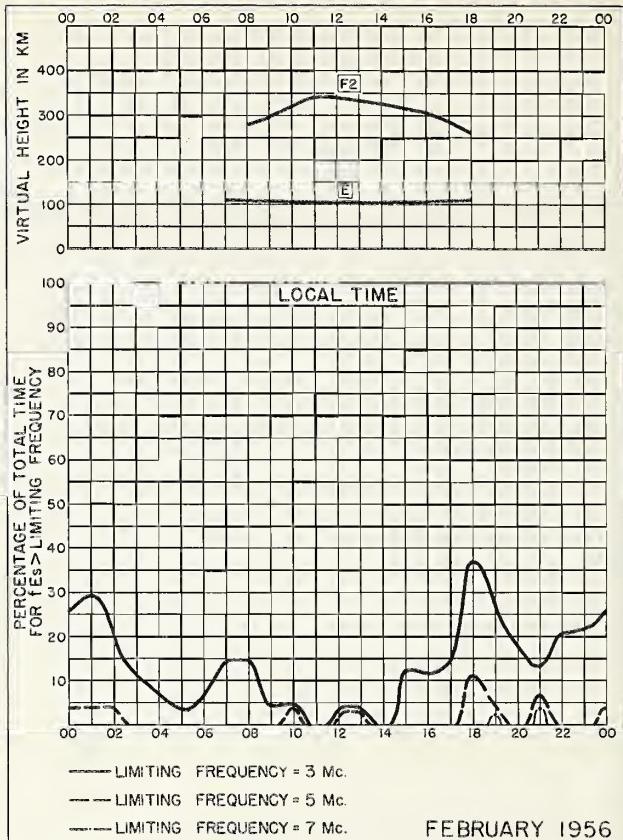


Fig. 142. TANANARIVE, MADAGASCAR FEBRUARY 1956

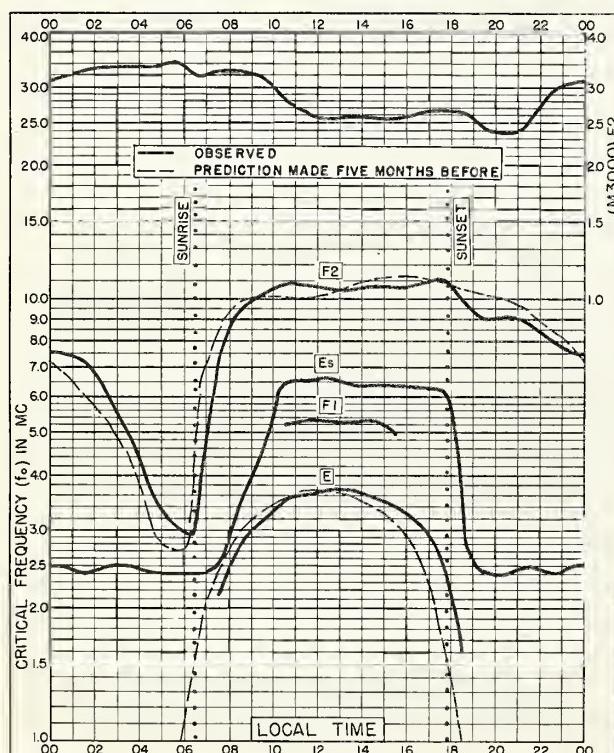


Fig. 143. DJIBOUTI, FRENCH SOMALILAND  
11.5°N, 43.1°E JANUARY 1956

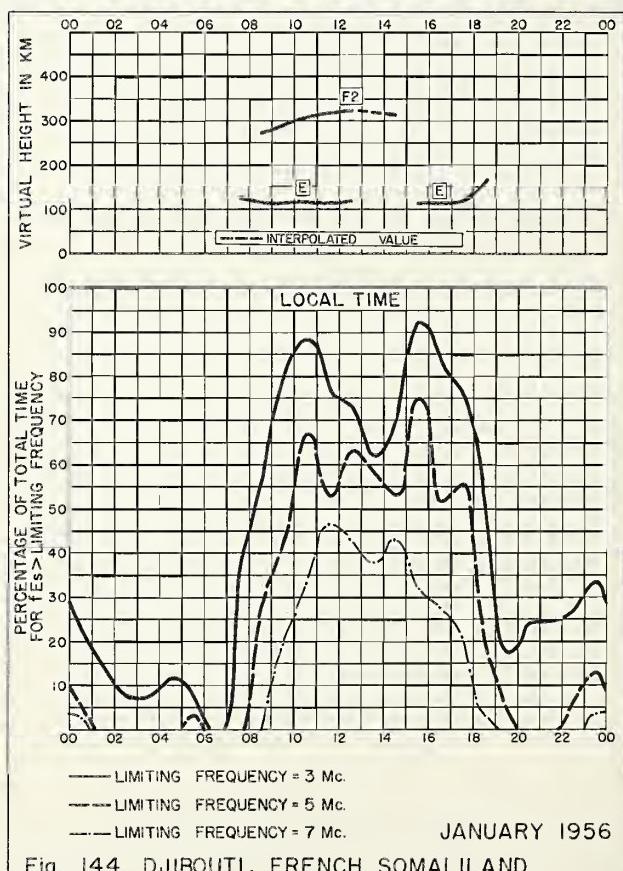


Fig. 144. DJIBOUTI, FRENCH SOMALILAND JANUARY 1956

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